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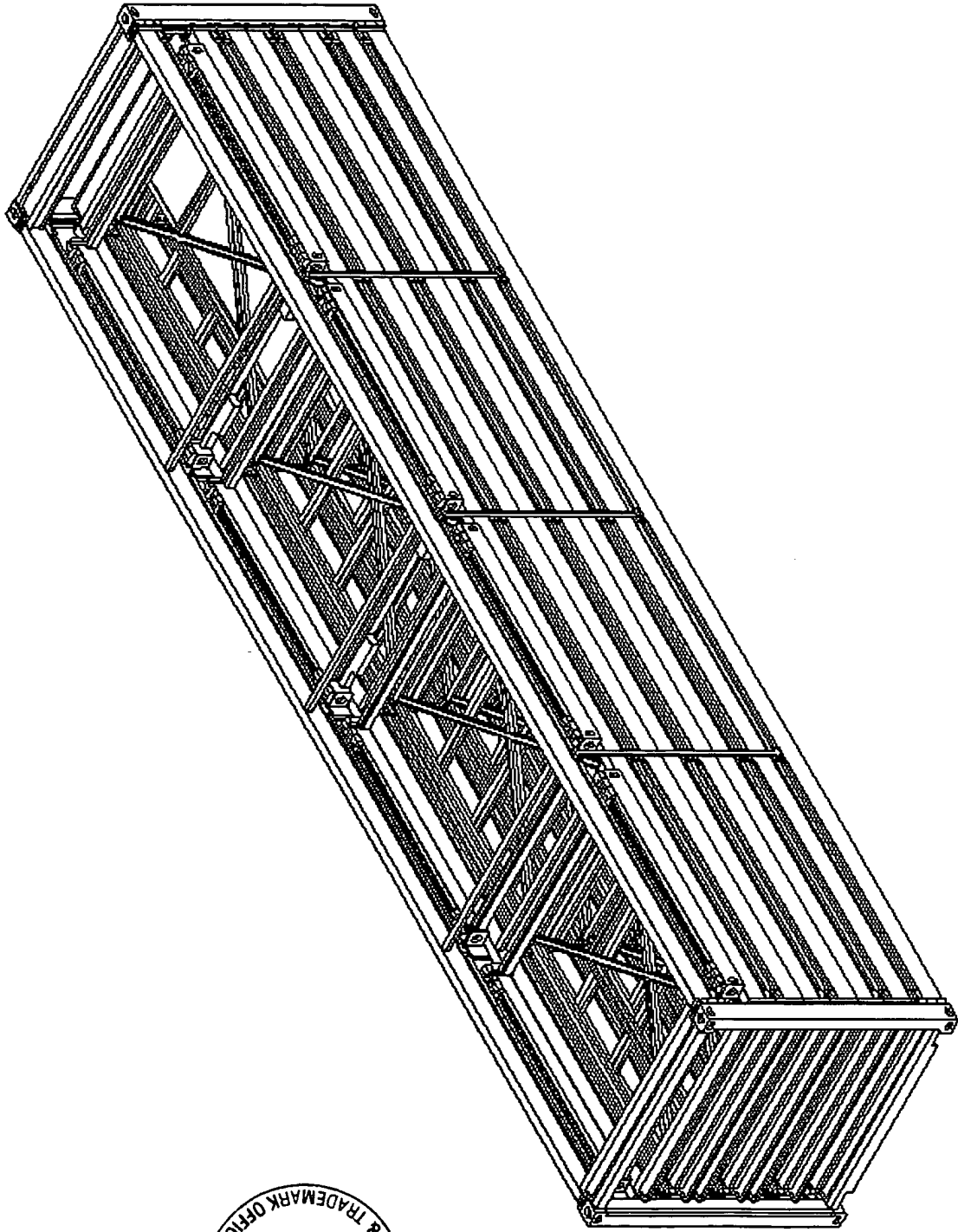


FIG. 1A: Basic isometric view of the 40 foot collapsible cargo container loaded with three collapsed container frames.

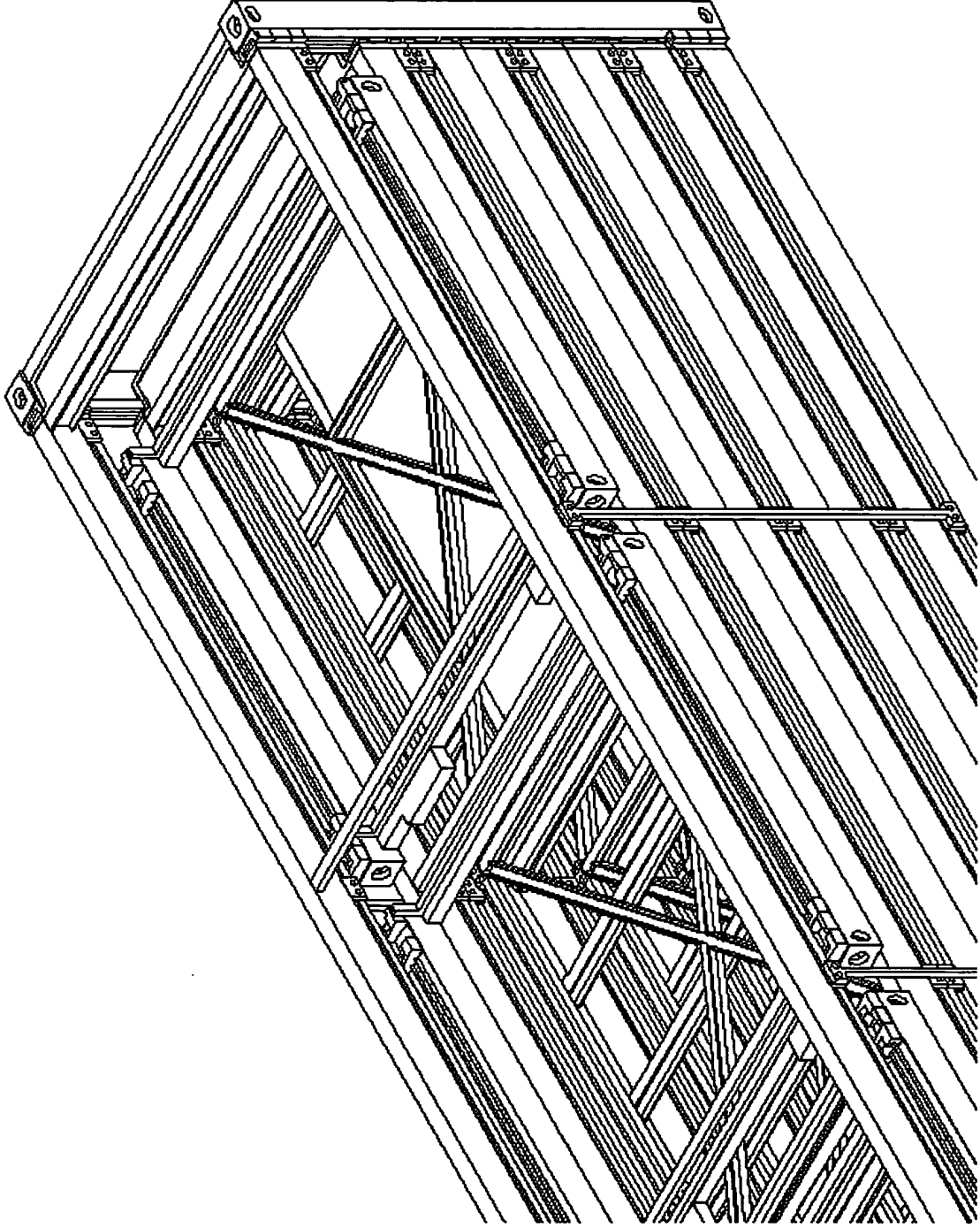


FIG. 2A: Detailed isometric view of the 40 foot collapsible cargo container loaded with three collapsed container frames

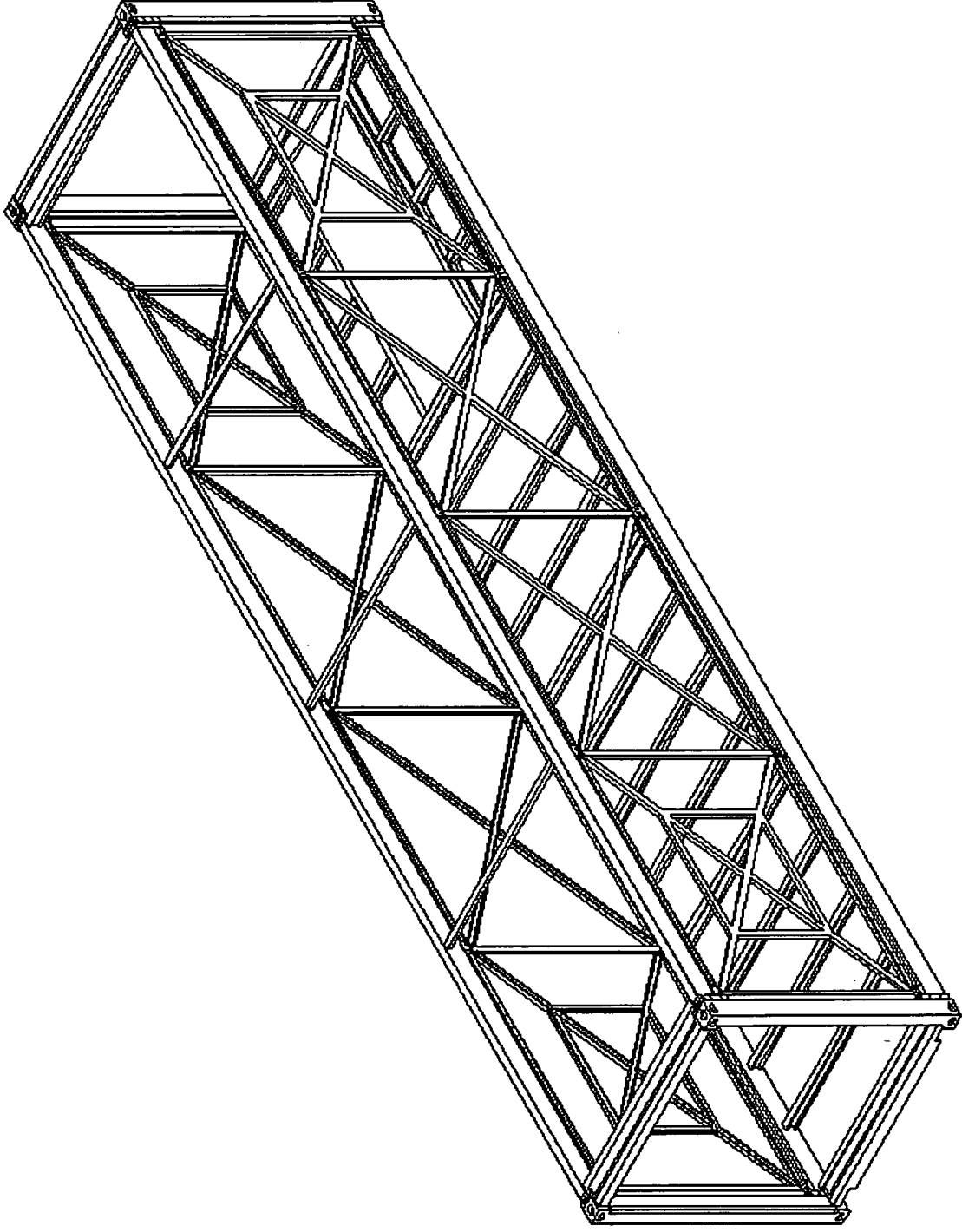


FIG. 3A: Basic isometric view of the 40 foot collapsible cargo container frame

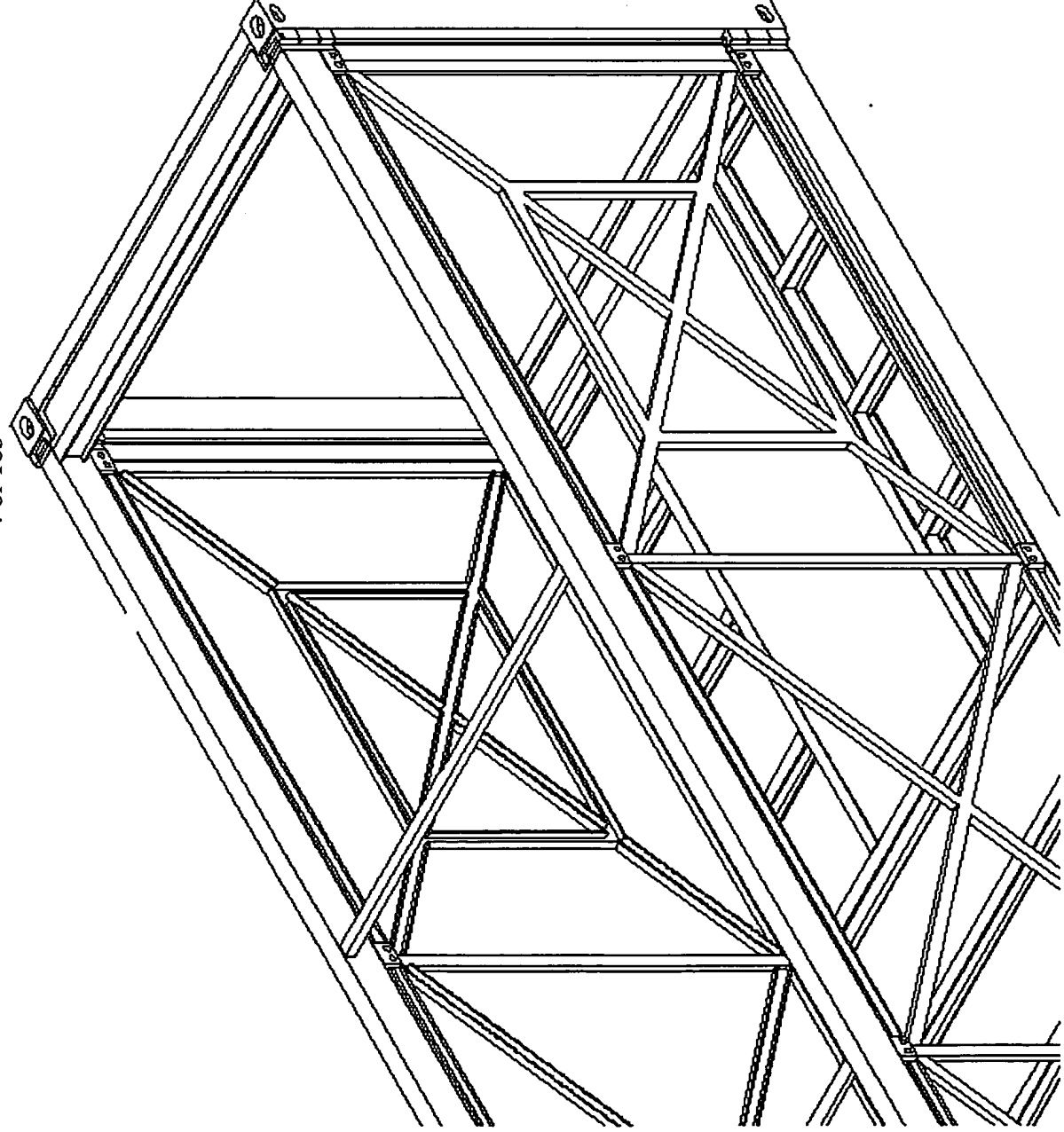


FIG. 4A: Enlarged isometric view of the left end of a 40 foot collapsible cargo container

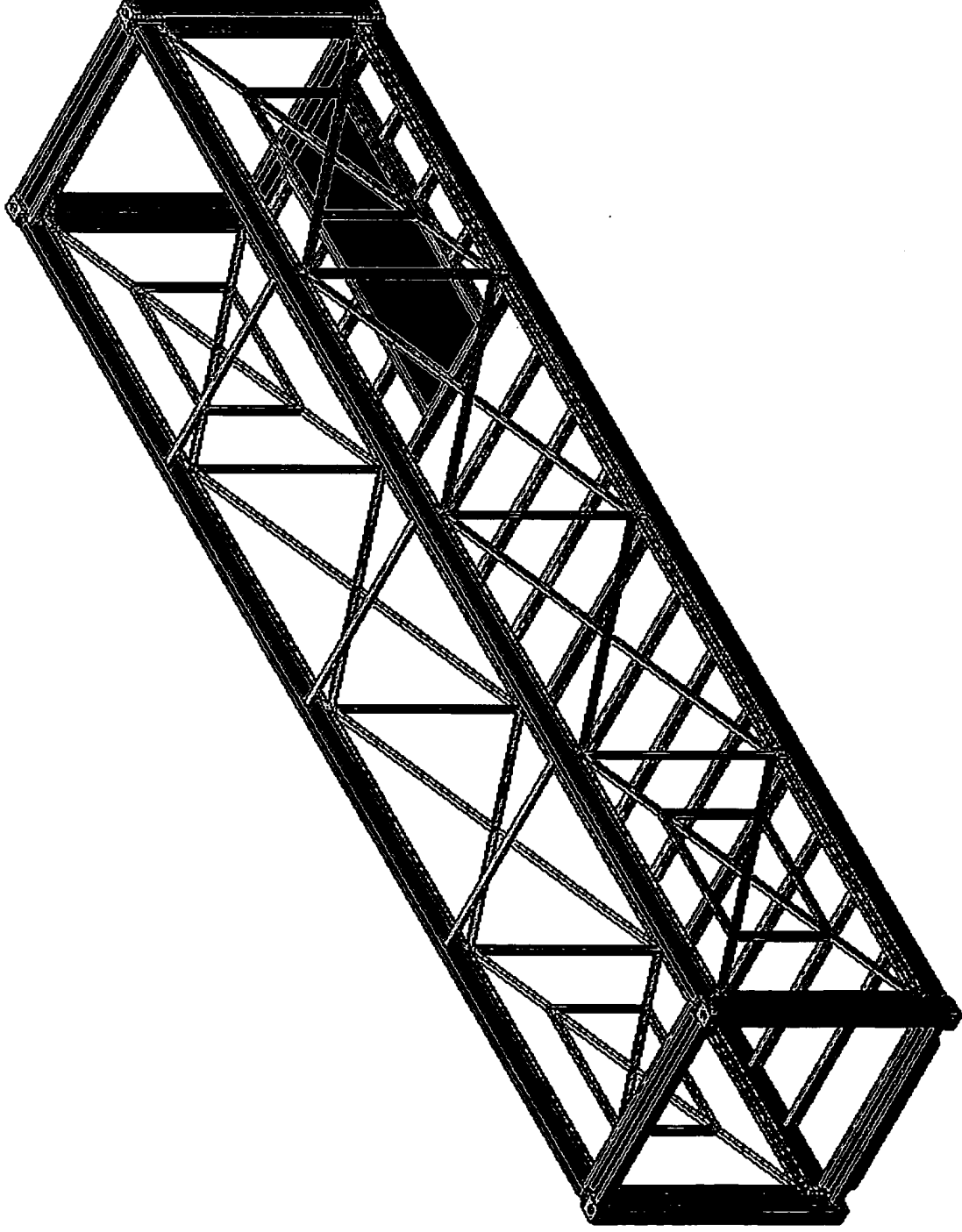


FIG. 5A: Opaque isometric view of the 40 foot collapsible cargo container frames

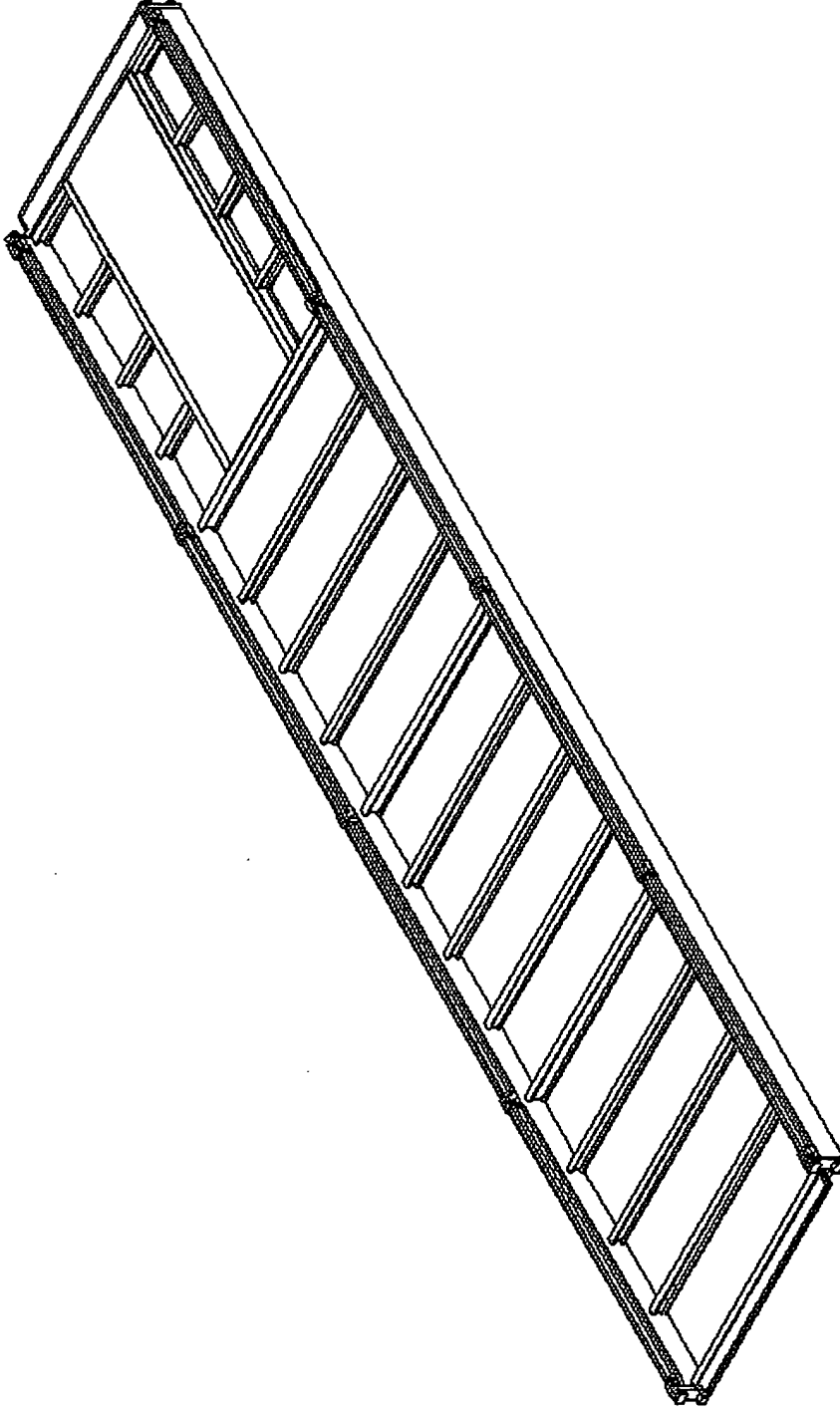


FIG. 6A: Basic isometric view of the floor frame .

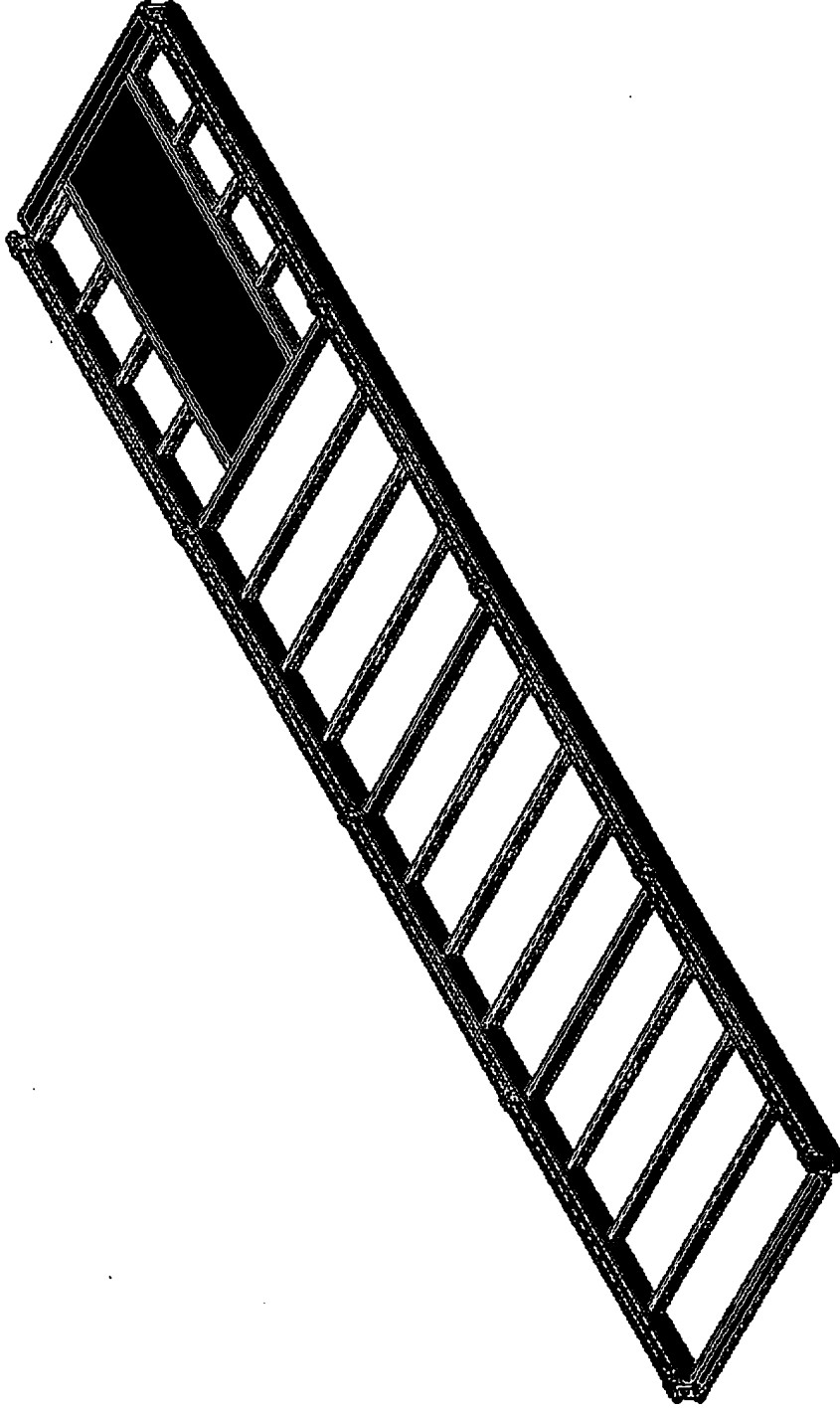


FIG. 7A: Opaque isometric view of the floor frame .

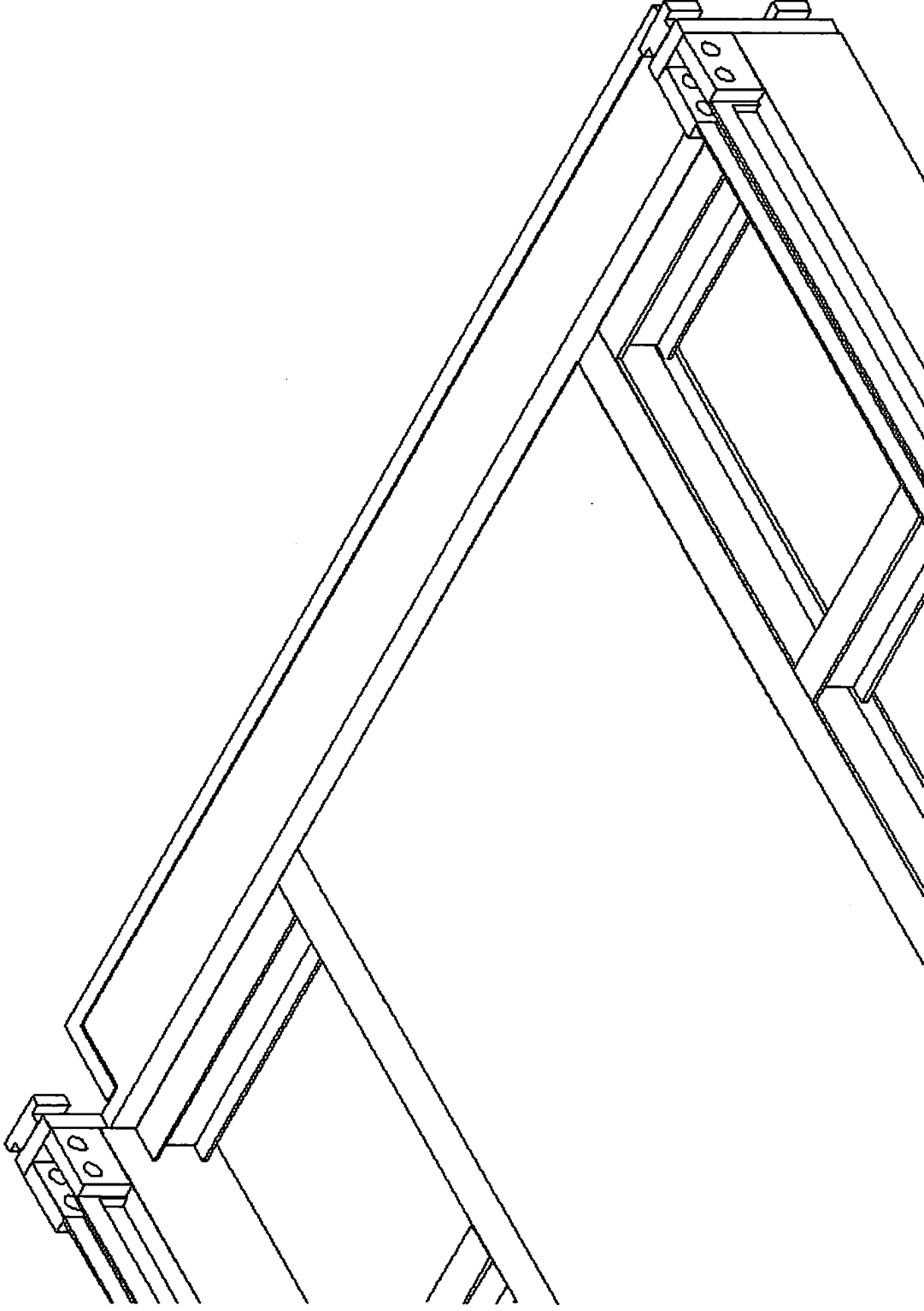


FIG. 8A: Isometric view of the left end of the floor frame .

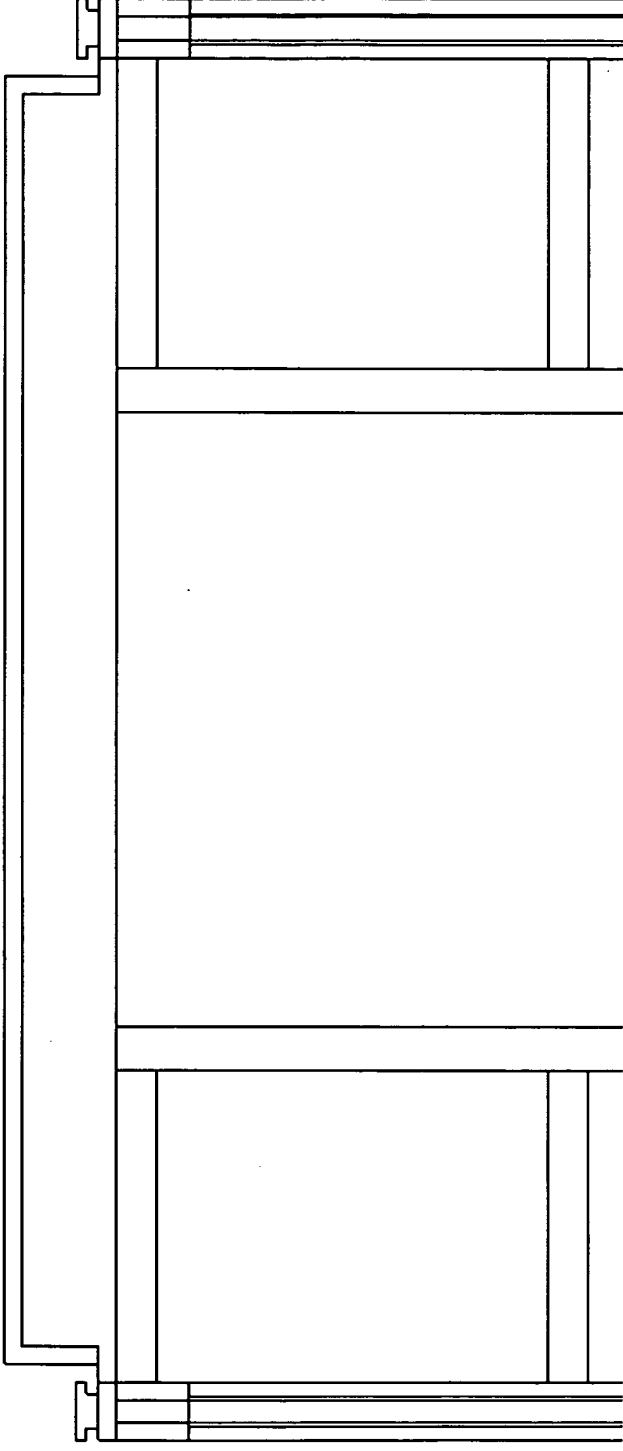


FIG. 9A: Top view of the left end of a floor frame .



FIG. 10A: Front view of the left end of a floor frame .

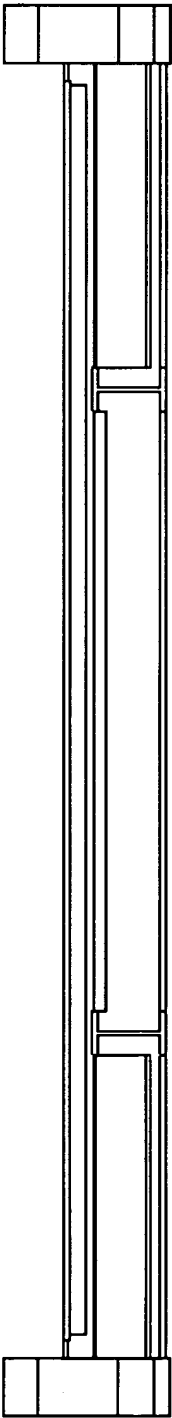


FIG. 11A: Left view of a floor frame .

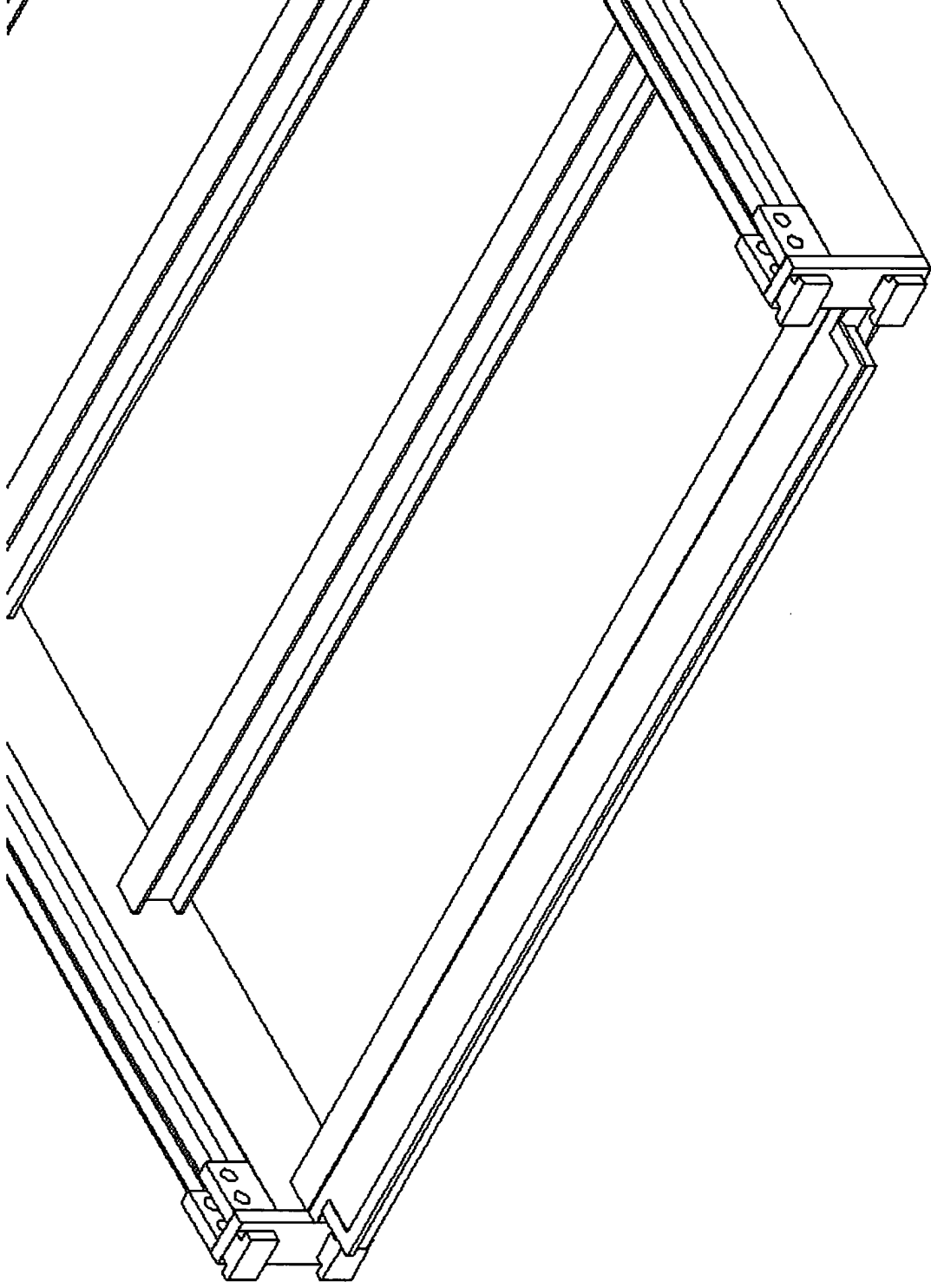


FIG. 12A: Isometric view of the right end of a floor frame .

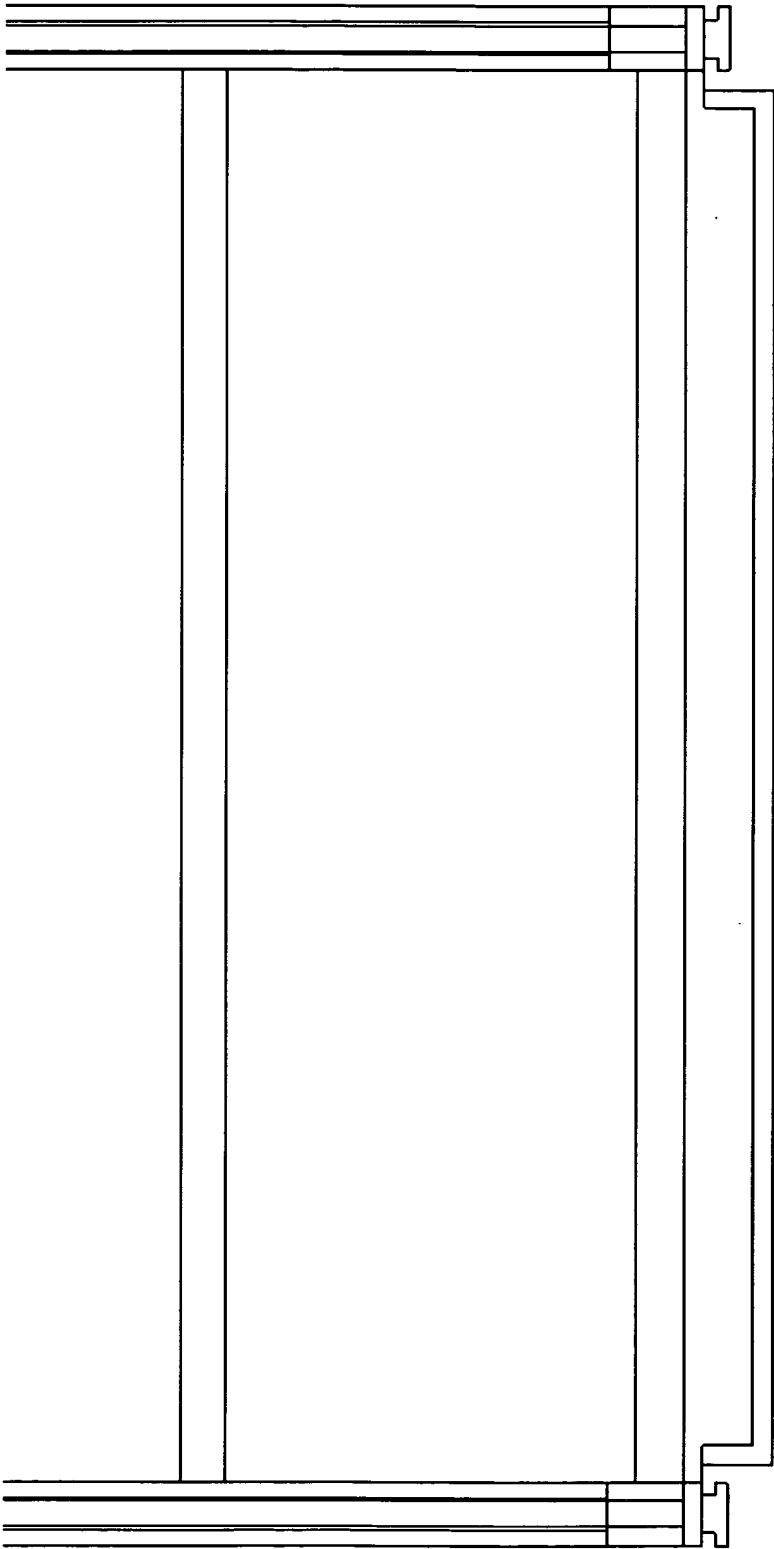


FIG. 13A: Top view of the right end of a floor frame .

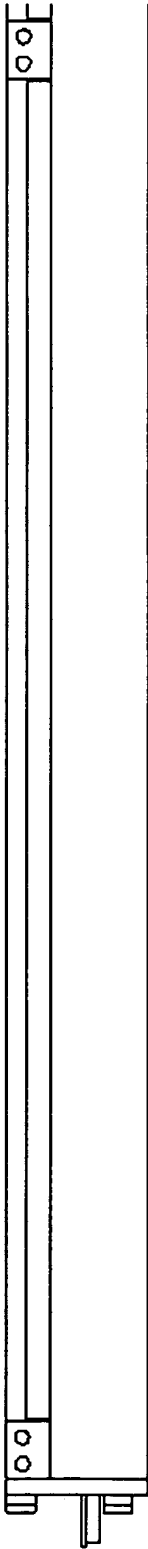


FIG. 14A: Front view of the right end of a floor frame .

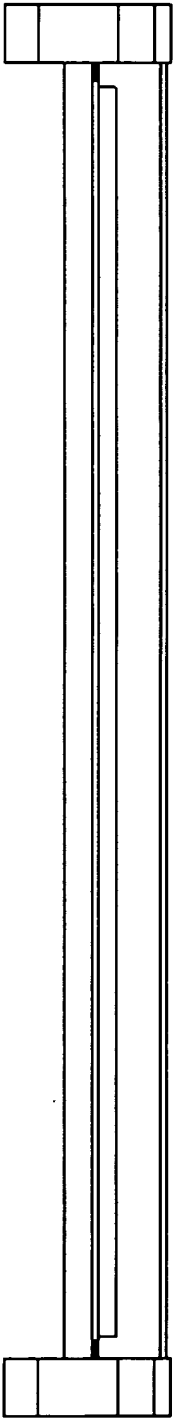


FIG. 15A: Right view of a floor frame .

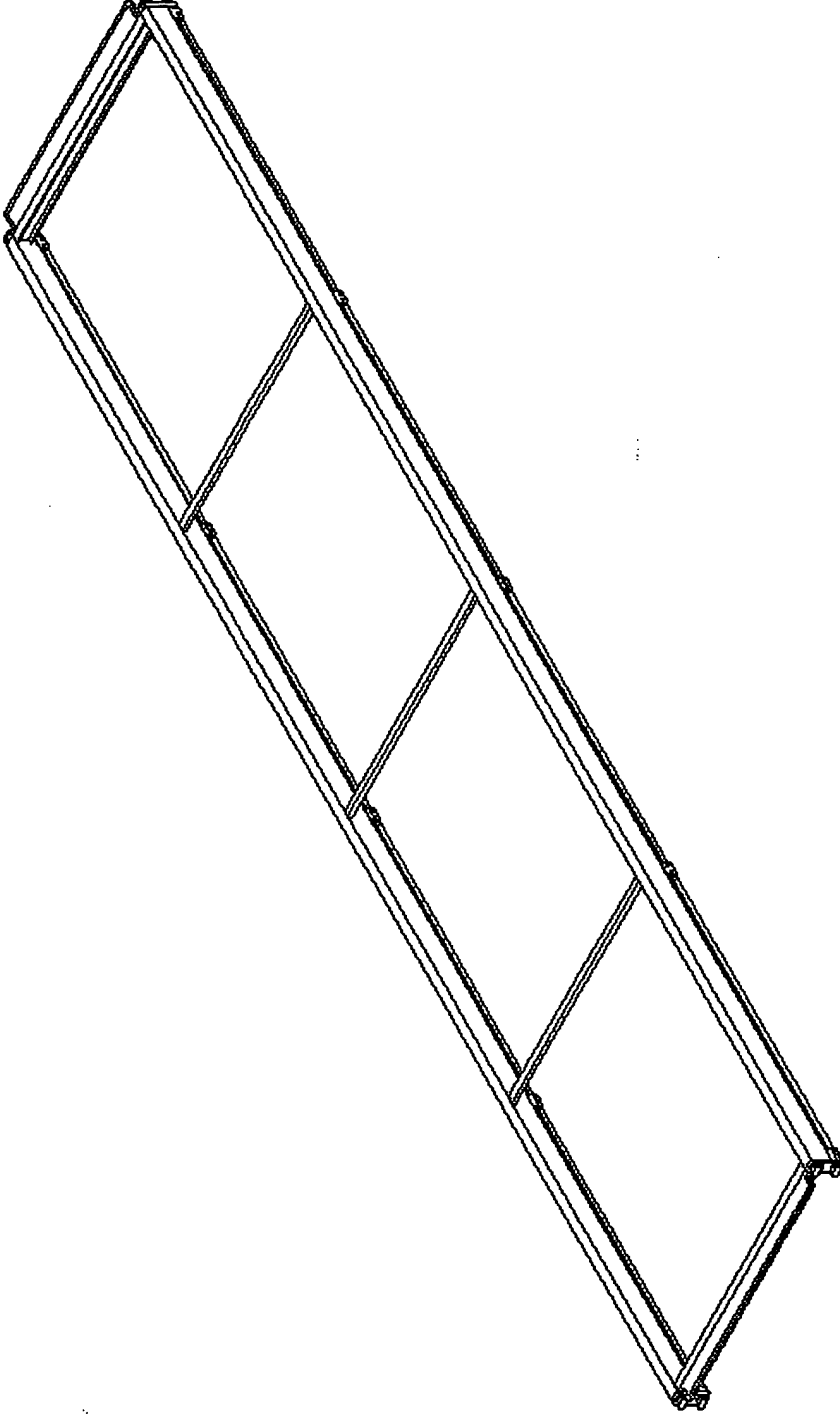


FIG. 16A: Isometric view of a ceiling frame .

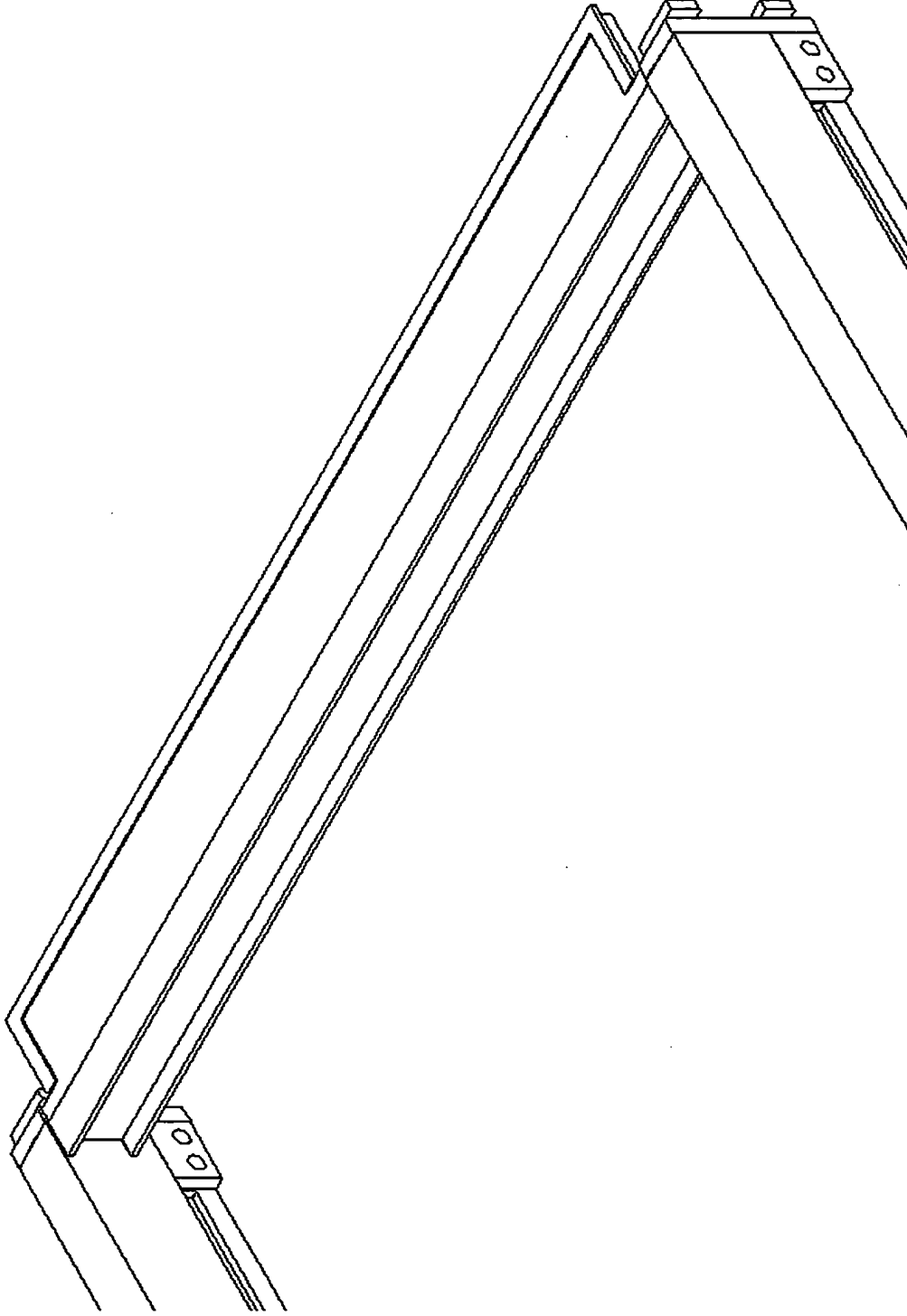


FIG. 17A: Isometric view of the left end of a ceiling frame .



FIG. 18A: Top view of the left end of a ceiling frame .

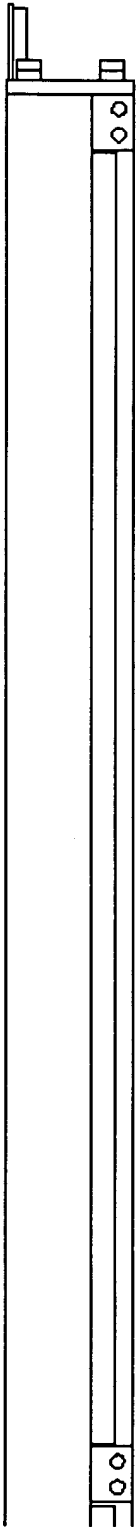


FIG. 19A: Front view of the left end of a ceiling frame .

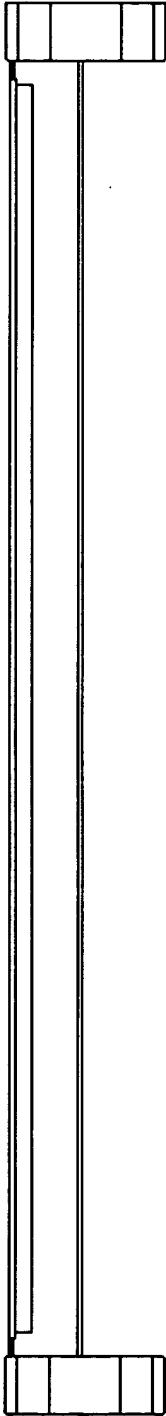


FIG. 20A: Left view of a ceiling frame .

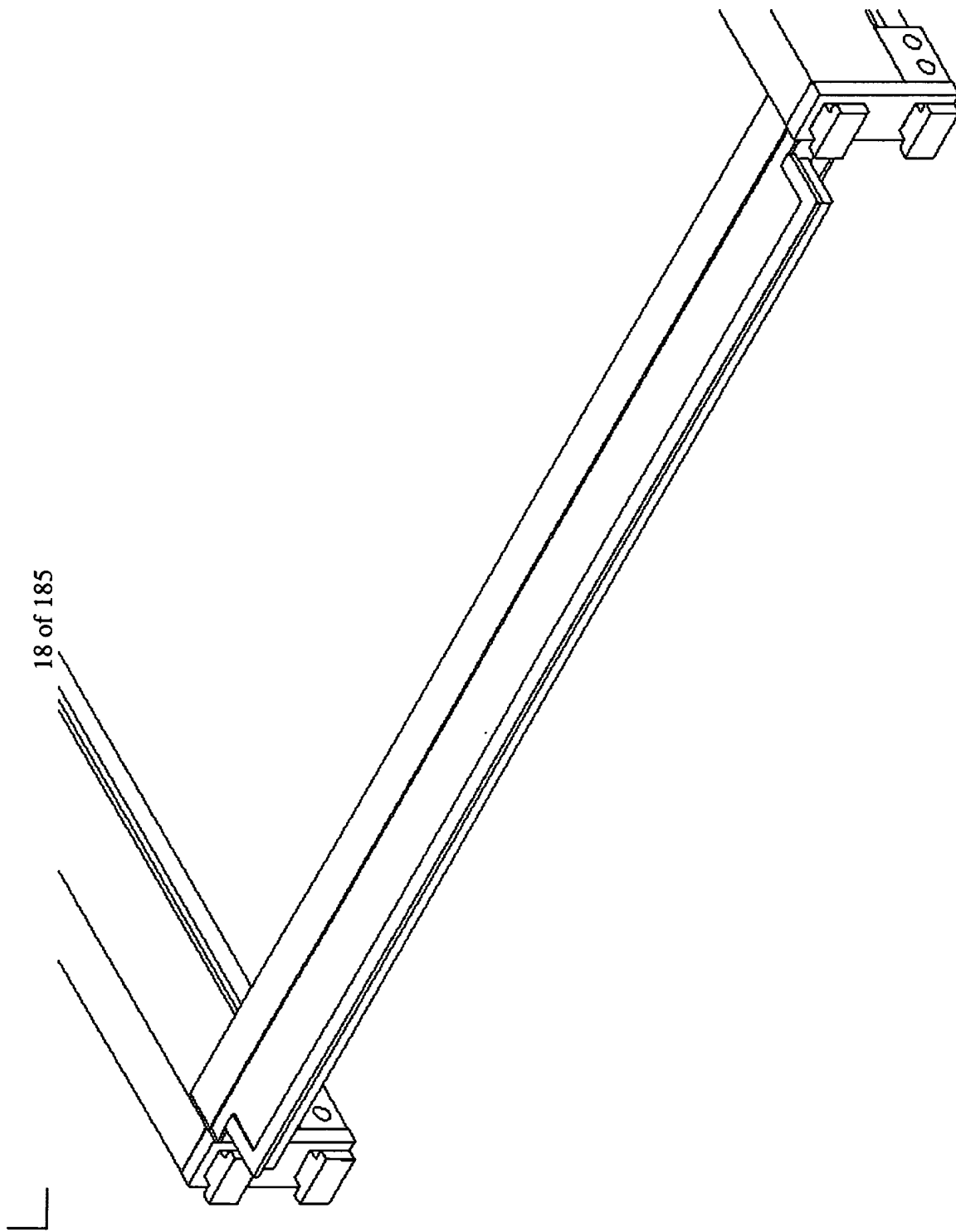


FIG. 21A: Isometric view of the right end of a ceiling frame .

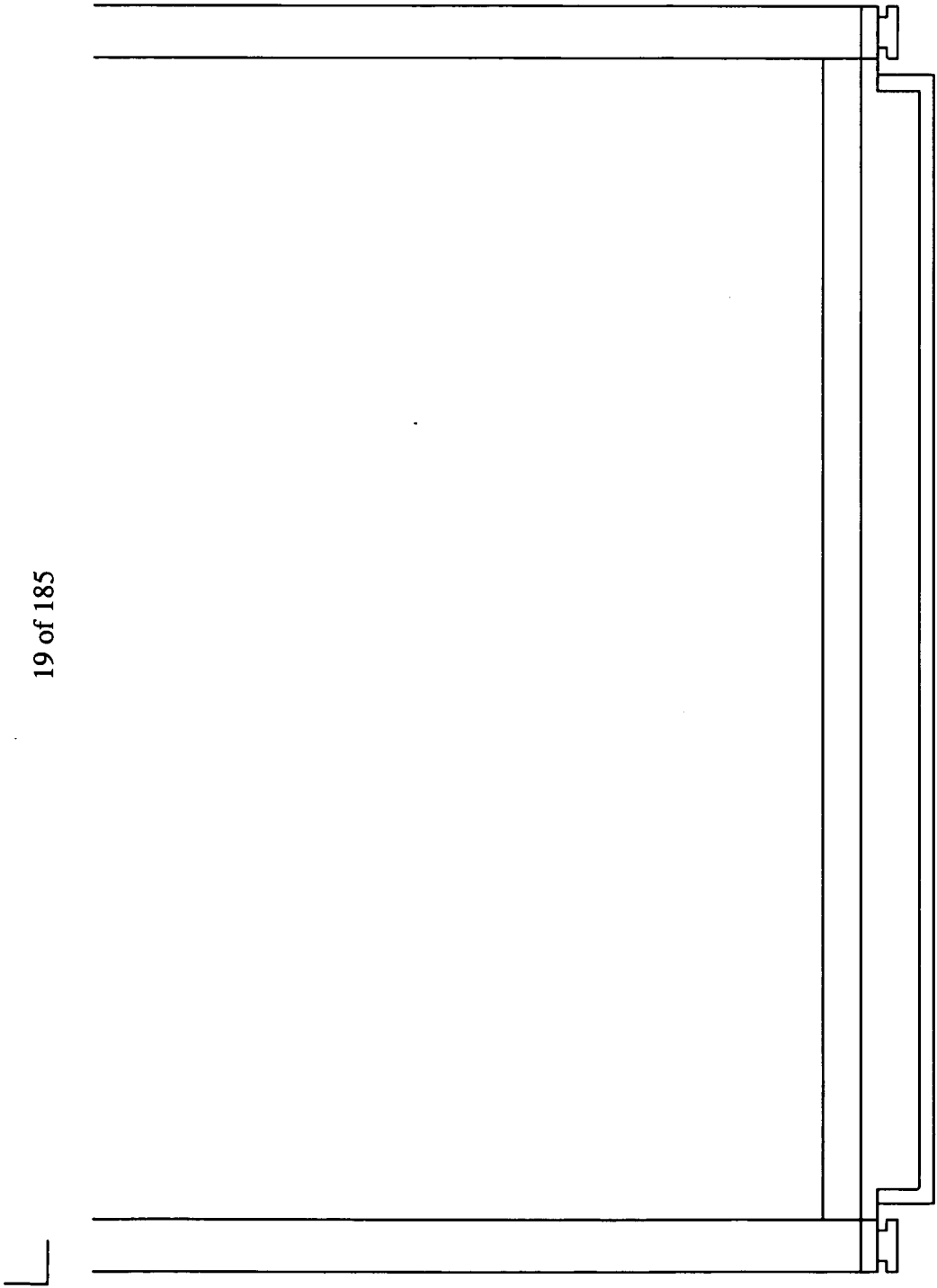


FIG. 22A: Top view of the right end of a ceiling frame .

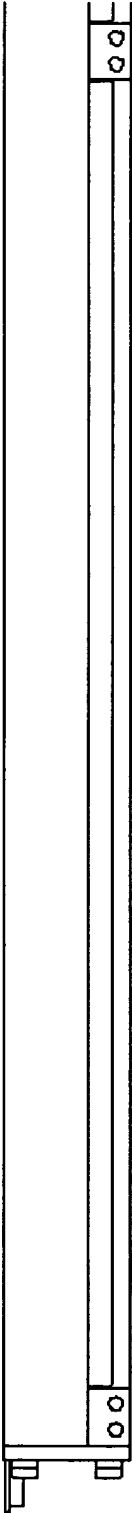


FIG. 23A: Front view of the right end of a ceiling frame .

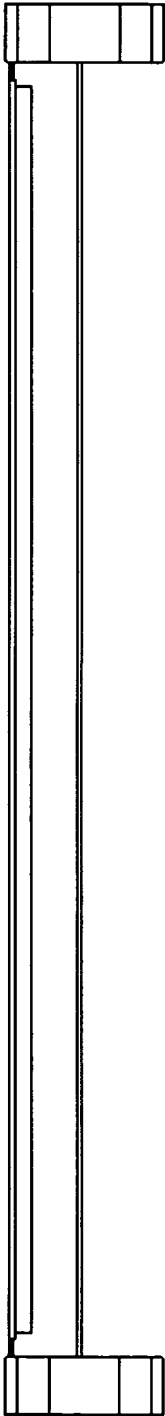


FIG. 24A: Right view of a ceiling frame .

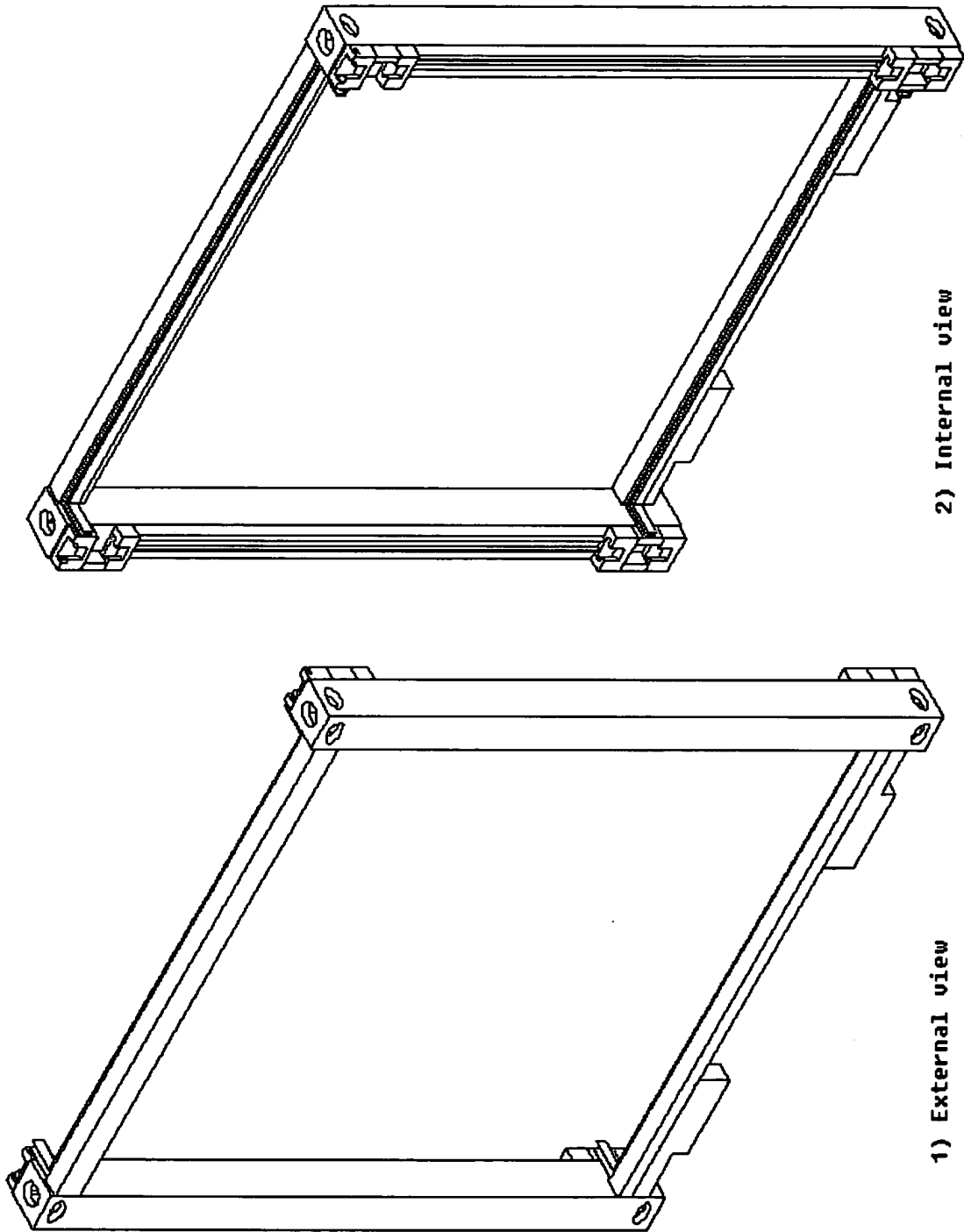


FIG. 25A: Isometric views of a left frame .

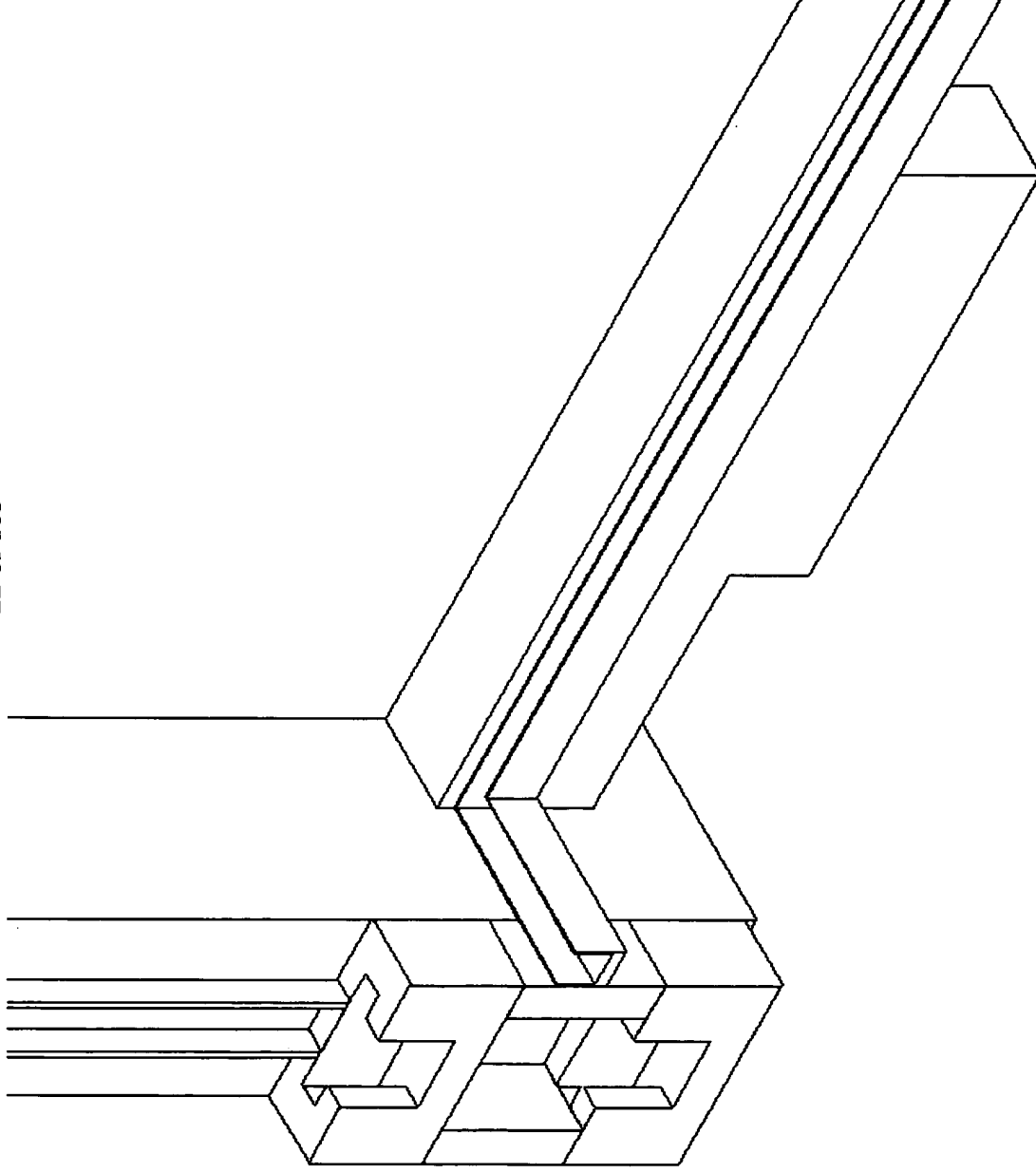


FIG. 26A: Isometric internal view of the corner of a left frame .

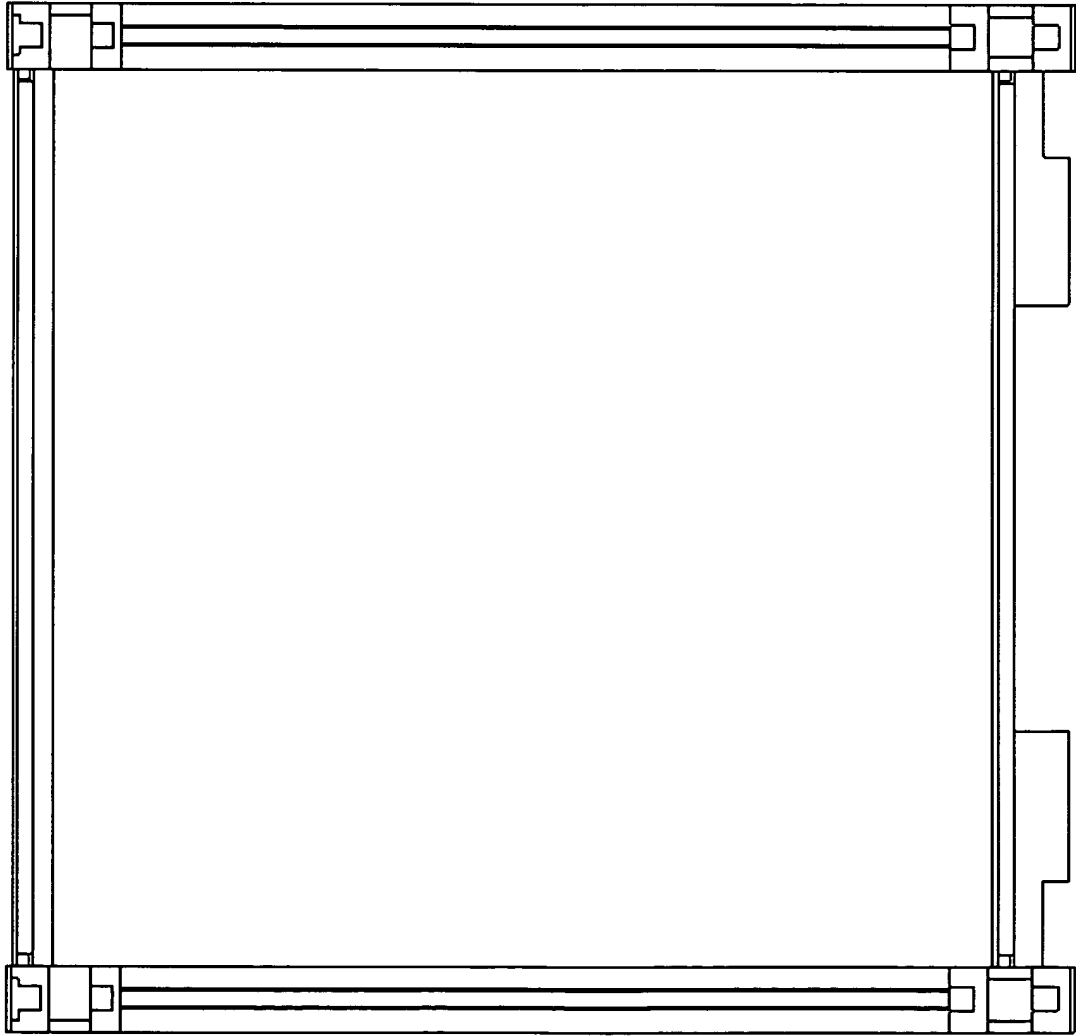


FIG. 27A: Internal view of a left frame .

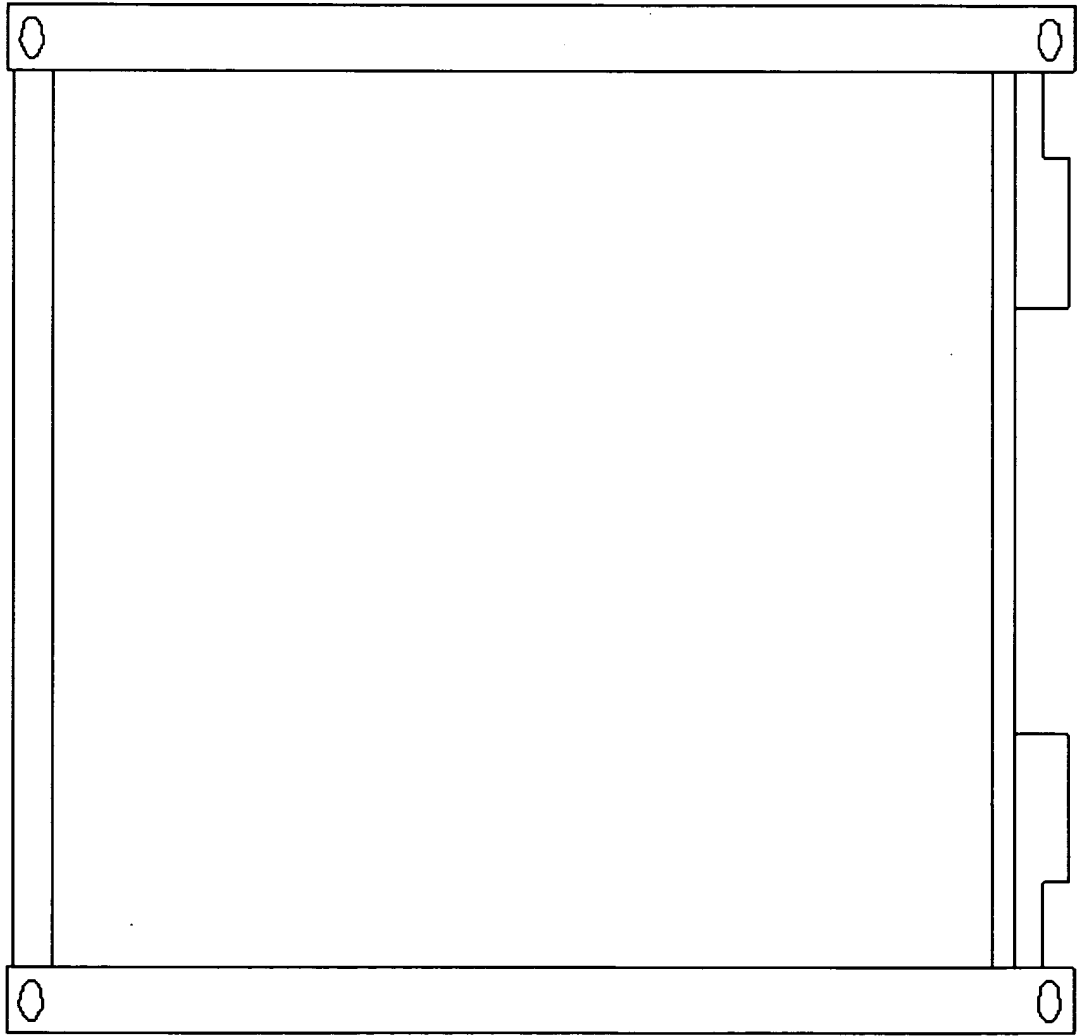


FIG. 28A: External view of a left frame .



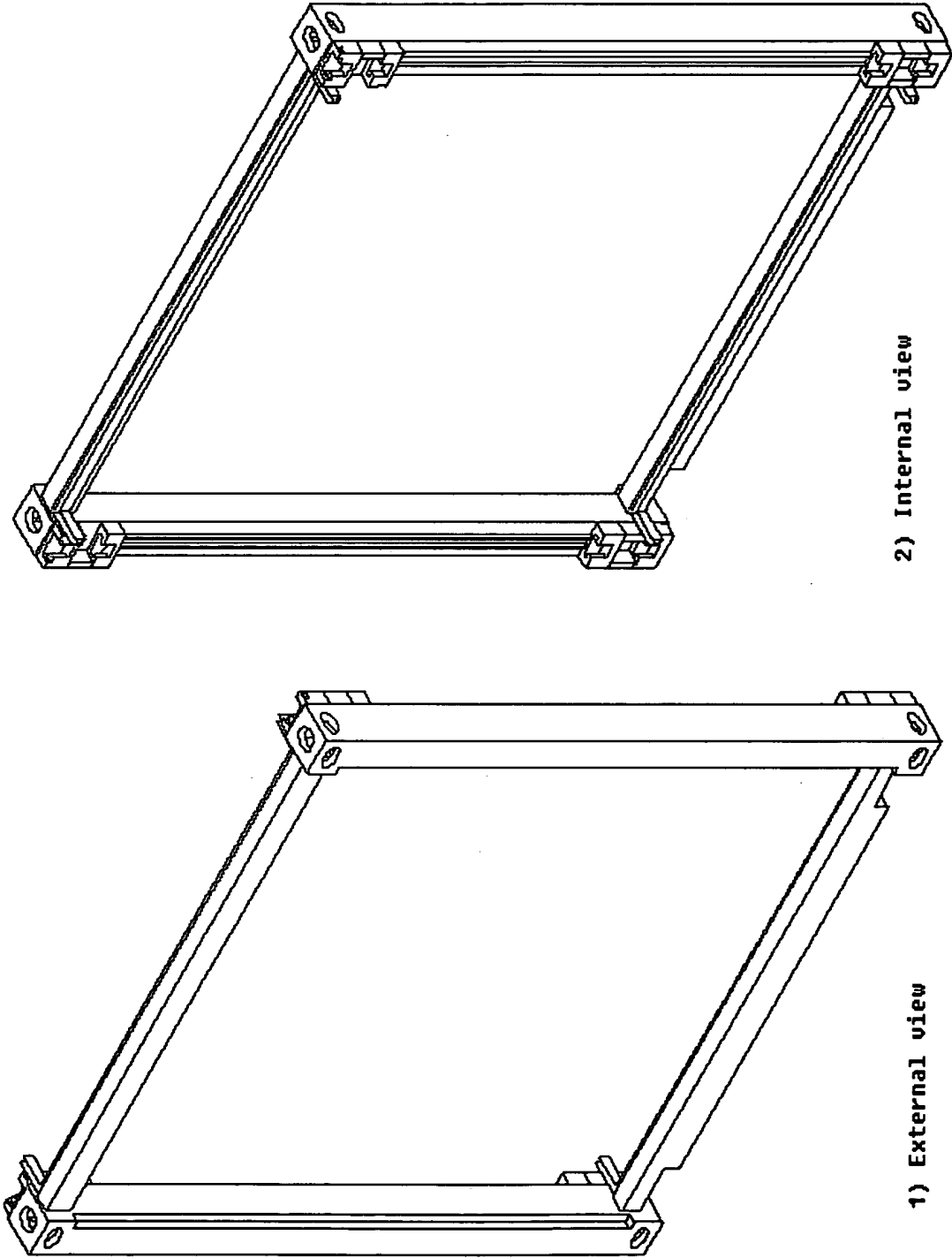


FIG. 29A: Isometric views of a right frame .

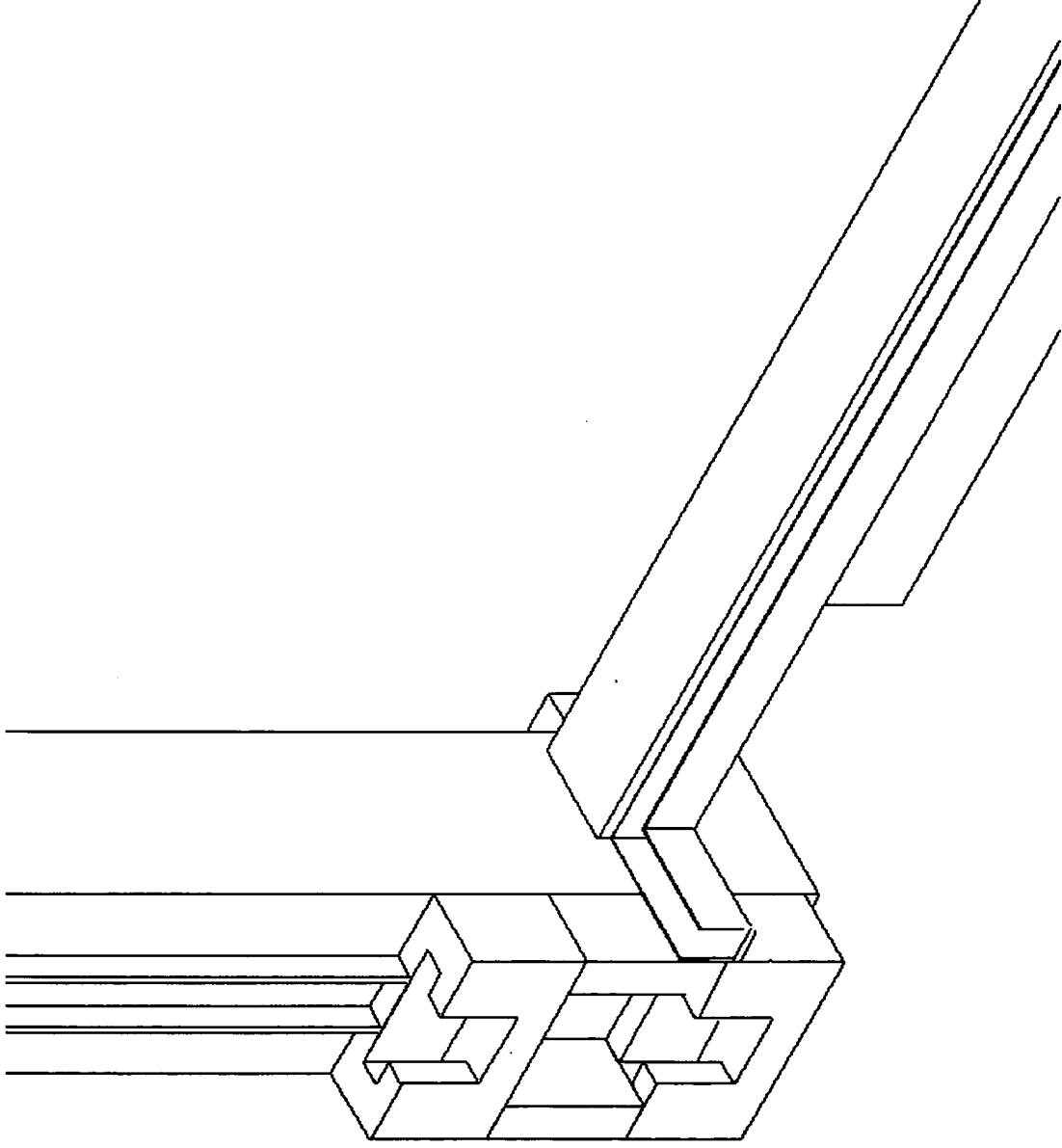


FIG. 30A: Isometric internal view of the corner of a right frame .

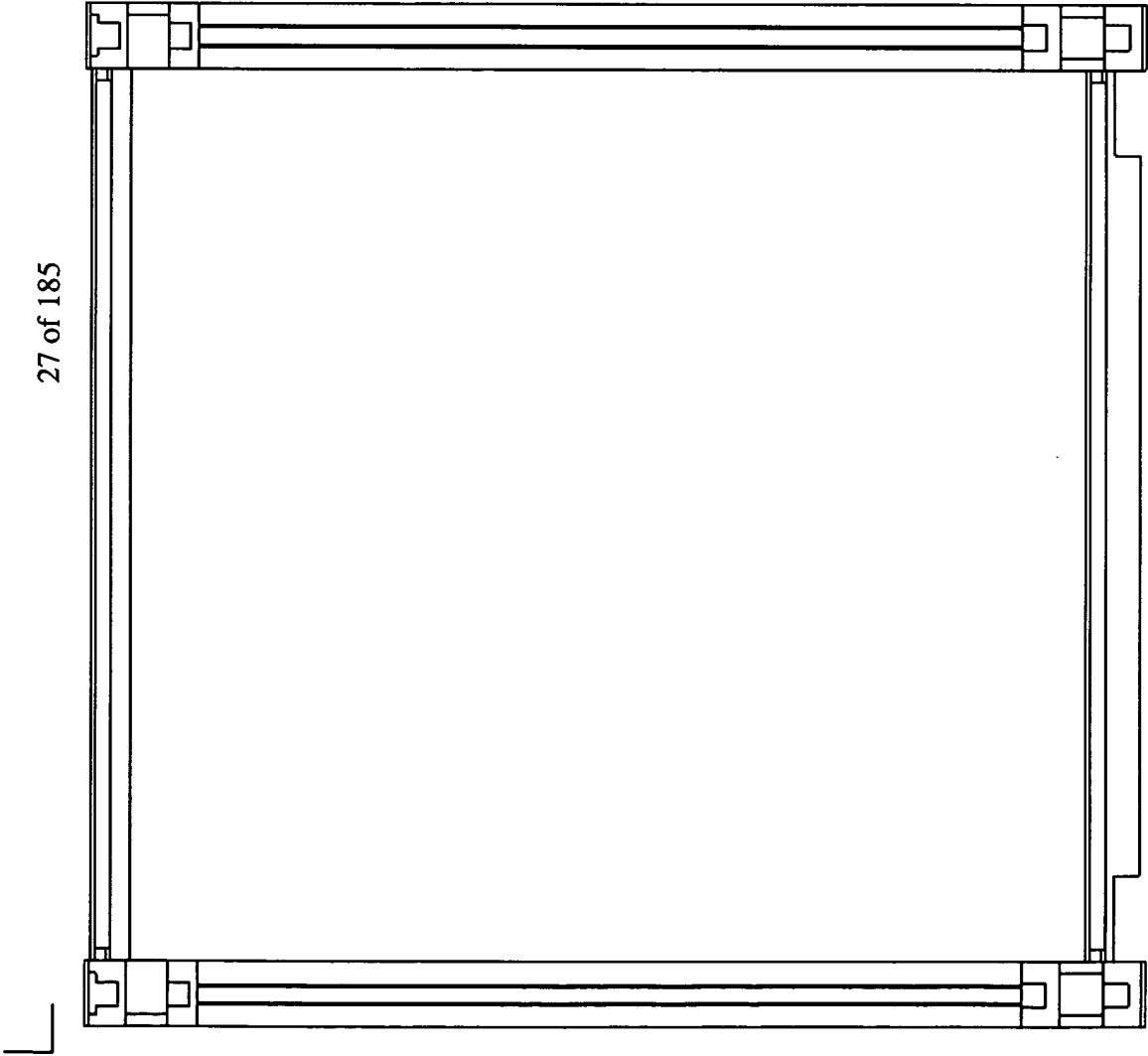


FIG. 31A: Internal view of a right frame .

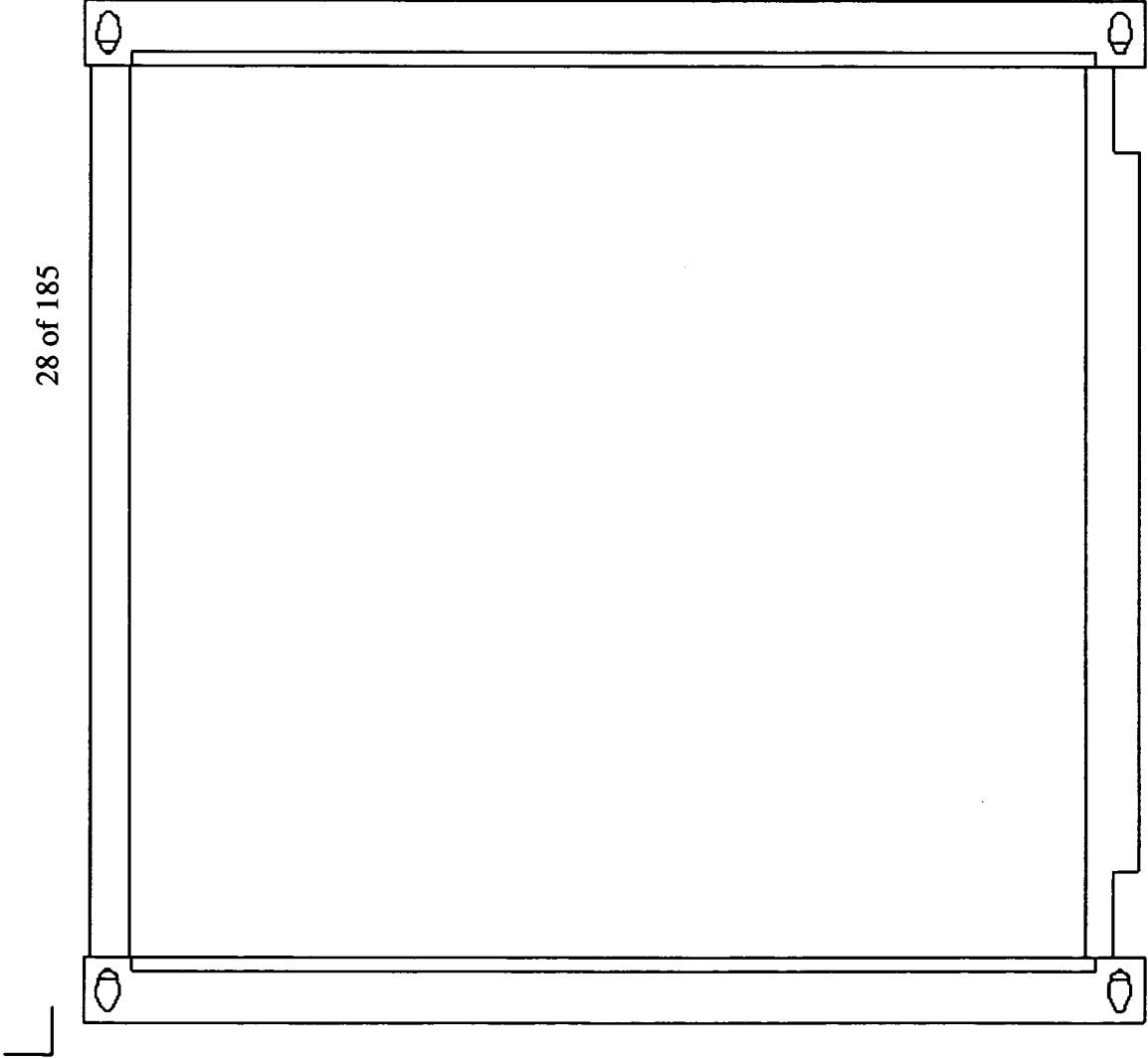


FIG. 32A: External view of a right frame .

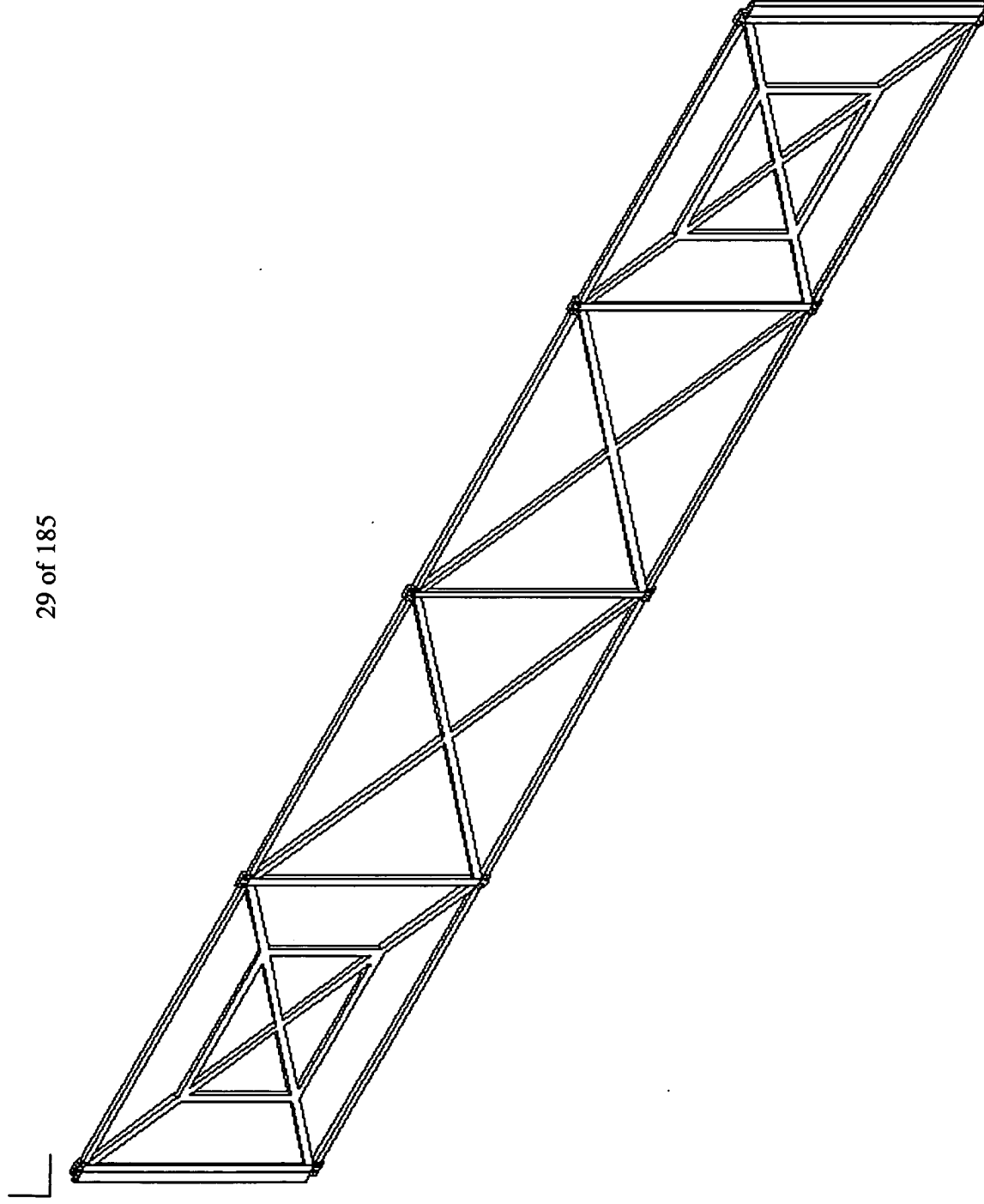


FIG. 33A/B: Isometric view of the front/back frame.

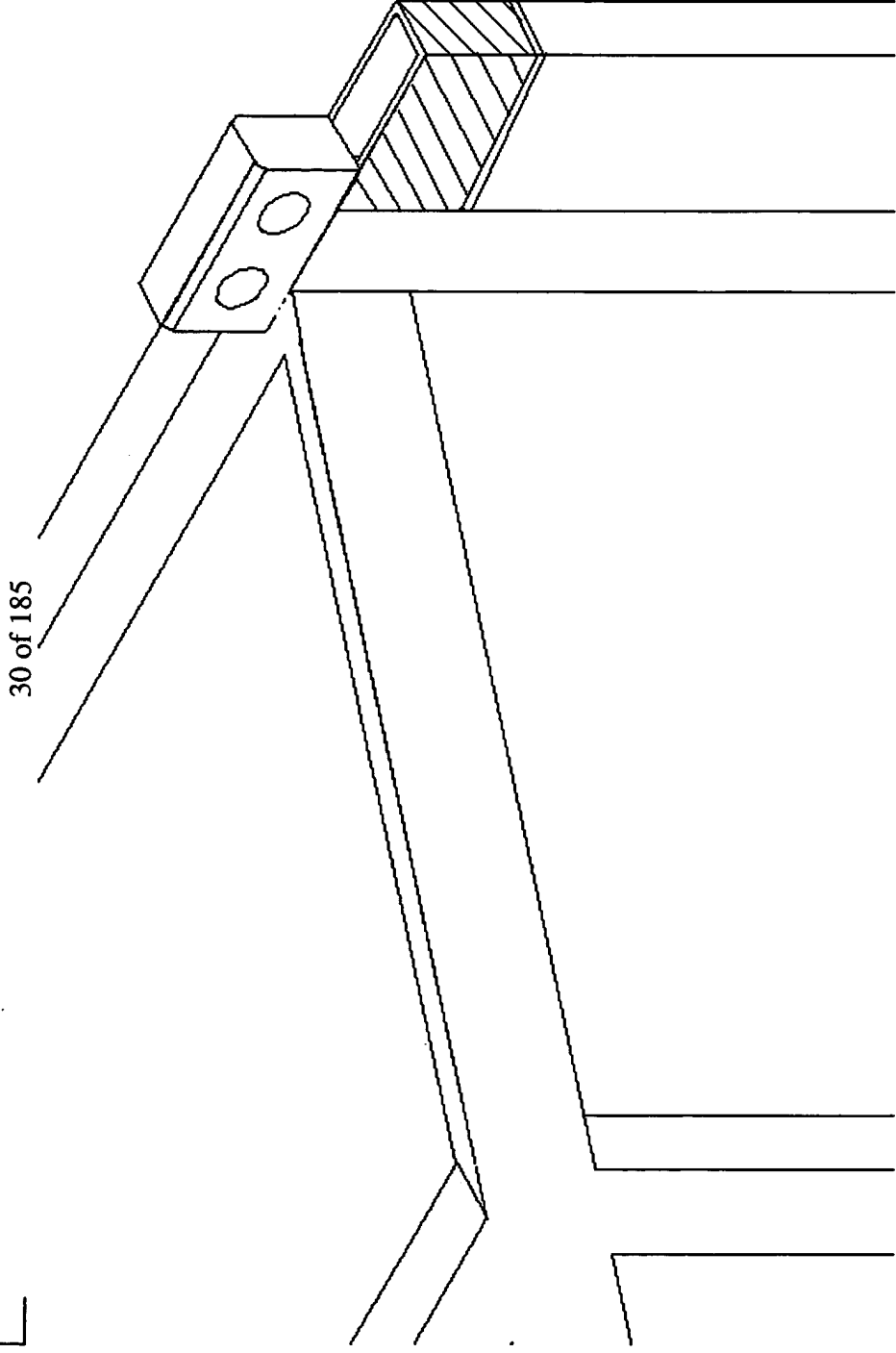


FIG. 34A/B: Isometric view of the top corner of a front/back frame.

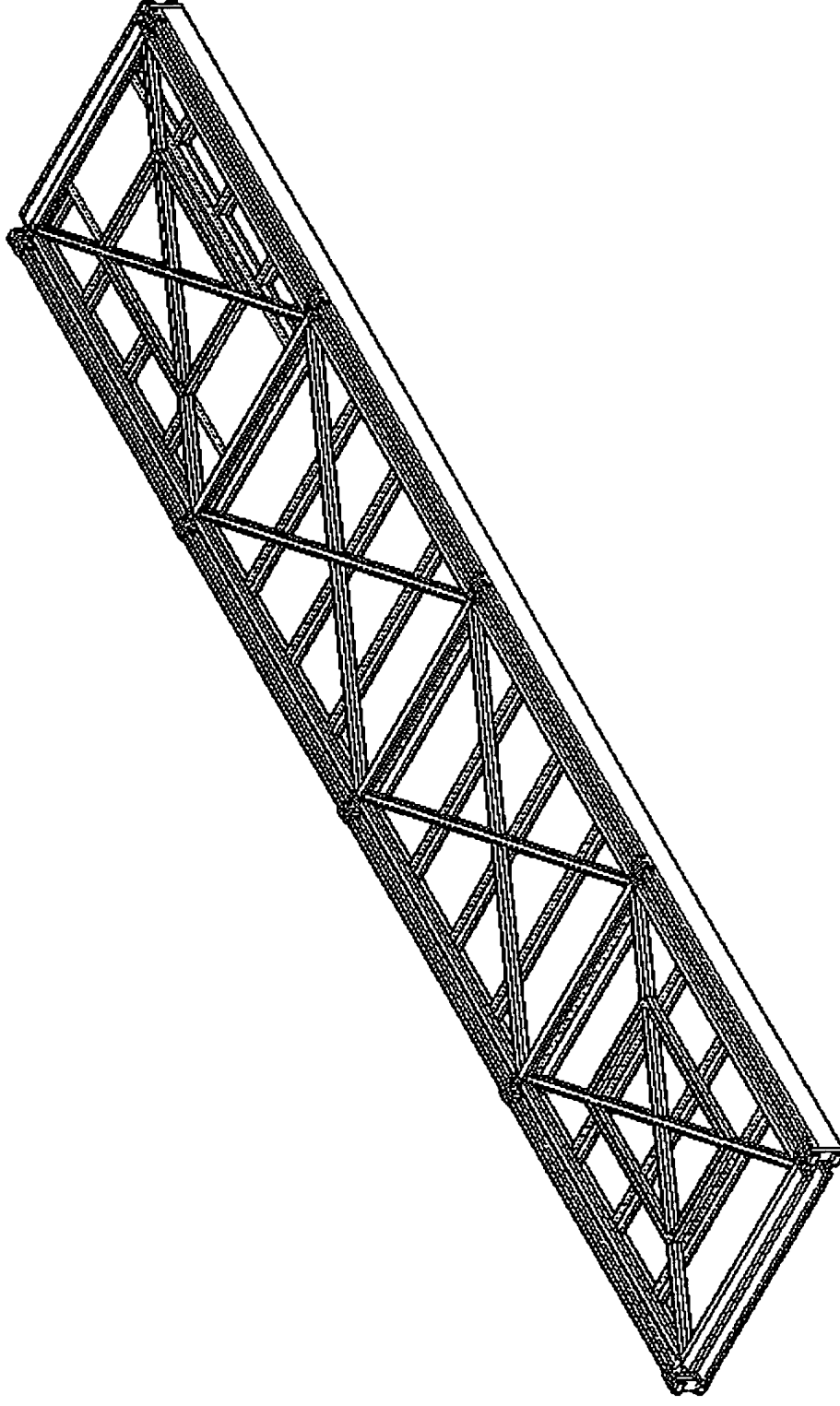


FIG. 35A: Isometric view of a floor frame that contains a front frame and a back frame .

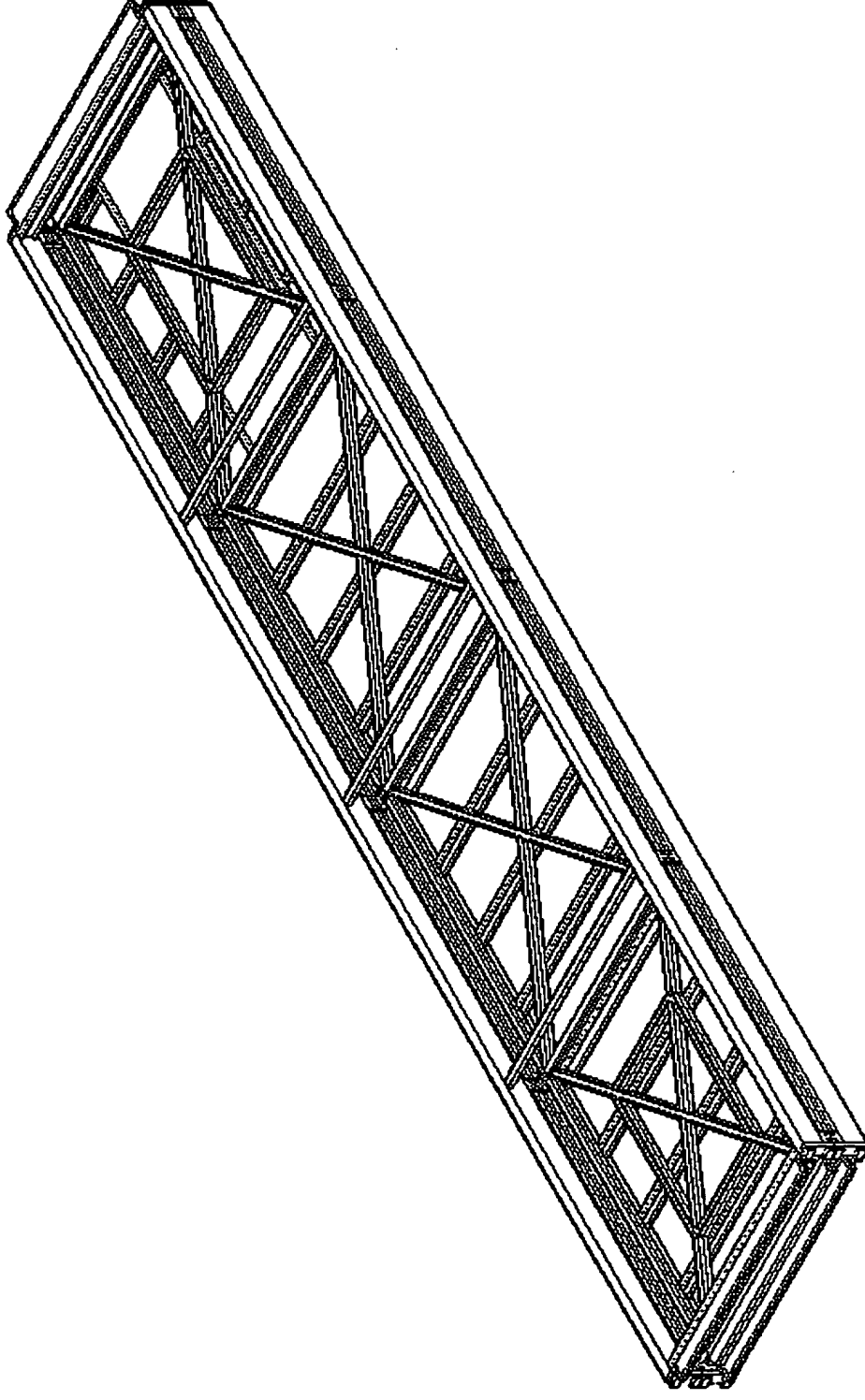


FIG. 36A: Isometric view of a ceiling frame stacked on top of a floor frame that contains a front frame and a back frame .

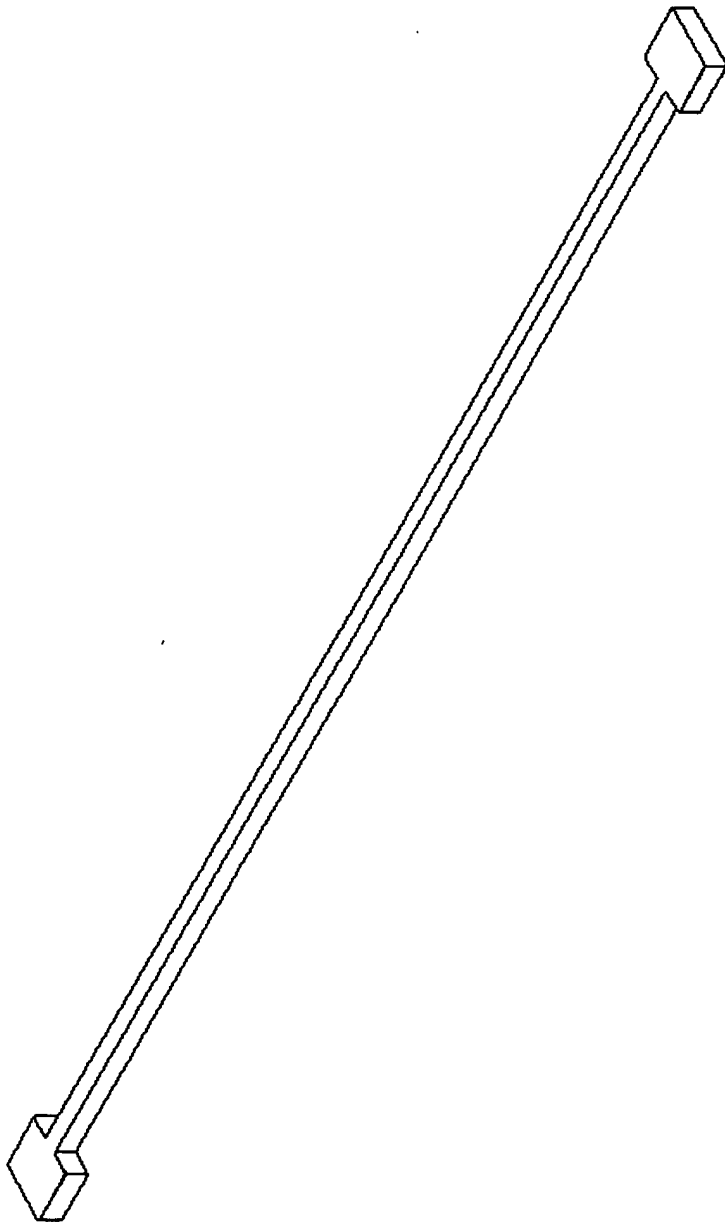


FIG. 37: Isometric view of the base part



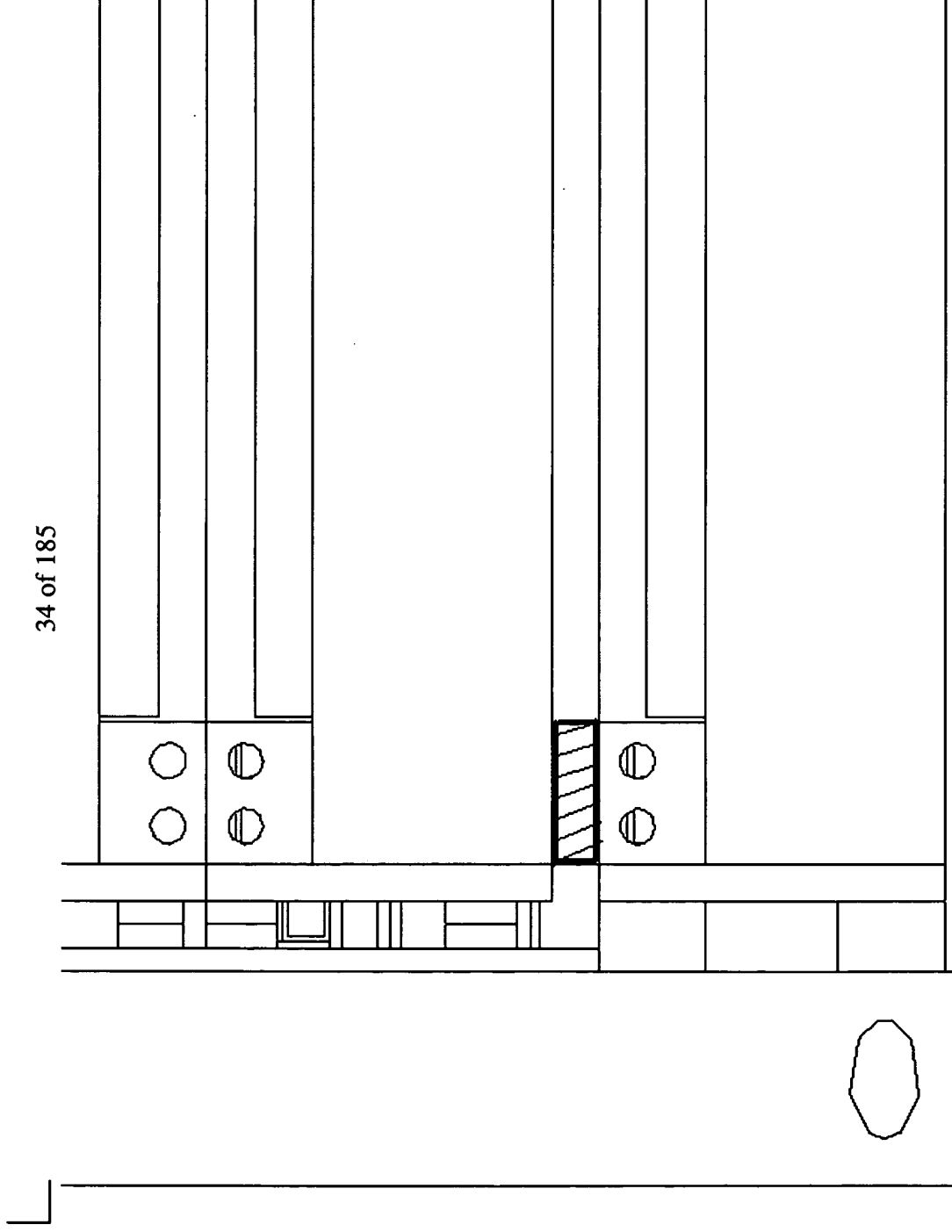


FIG. 38: Enlarged front view of a loaded collapsible cargo container.

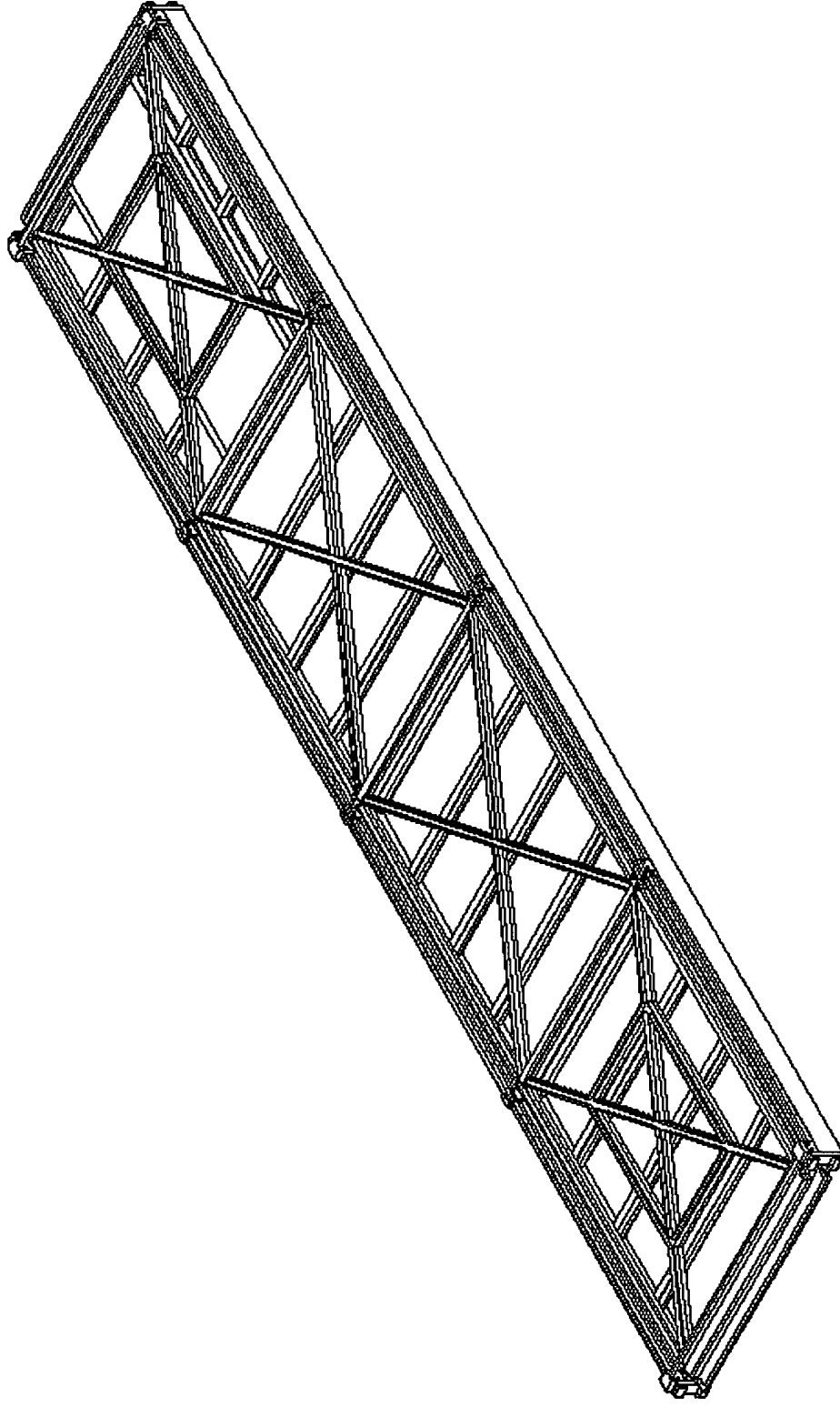


FIG. 39 A/C/D: Step1 of disassemble and load process.

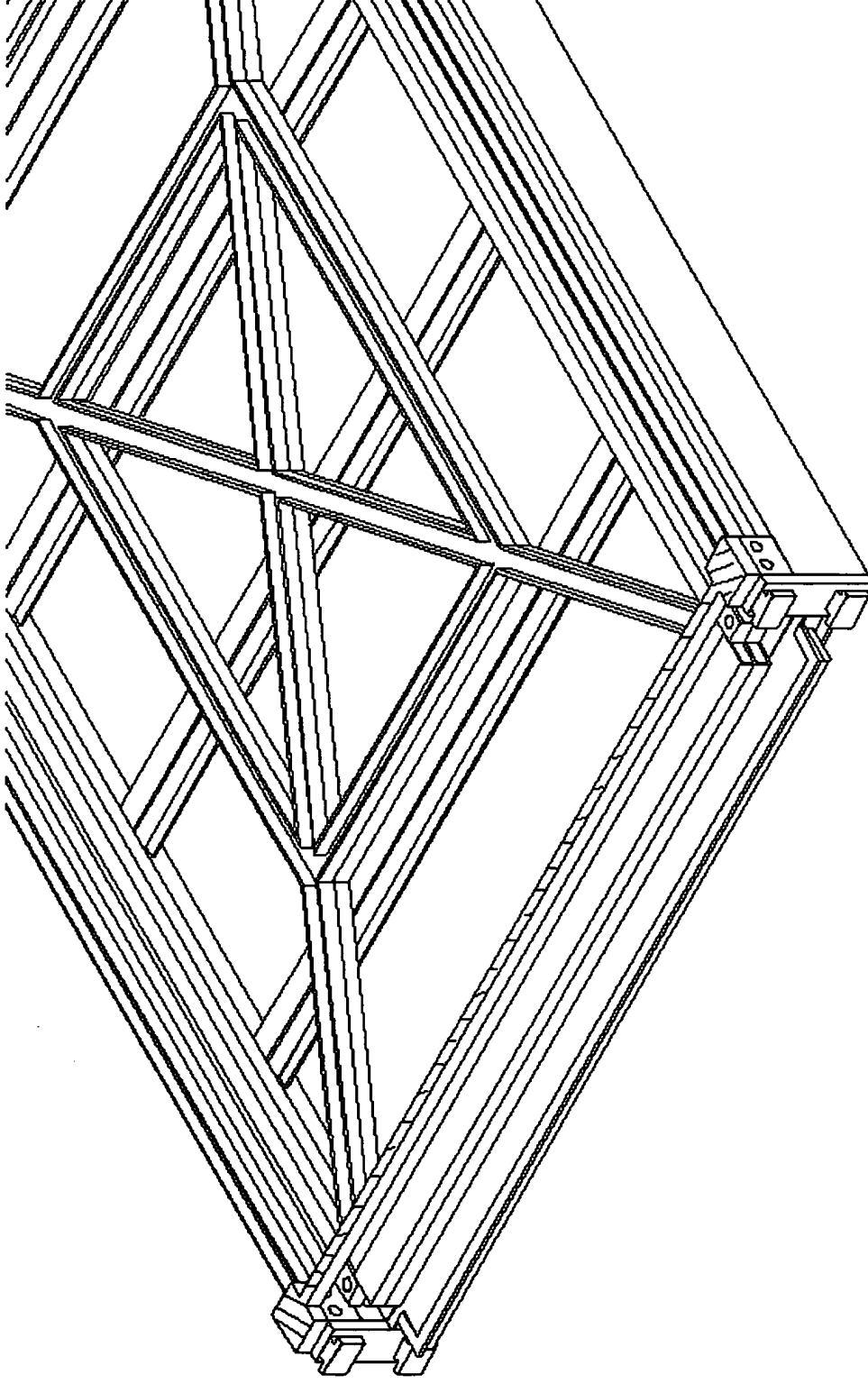


FIG. 40A/C/D: Enlarged view based on FIG. 39A/C/D to show the base part position indicated by shaded lines.

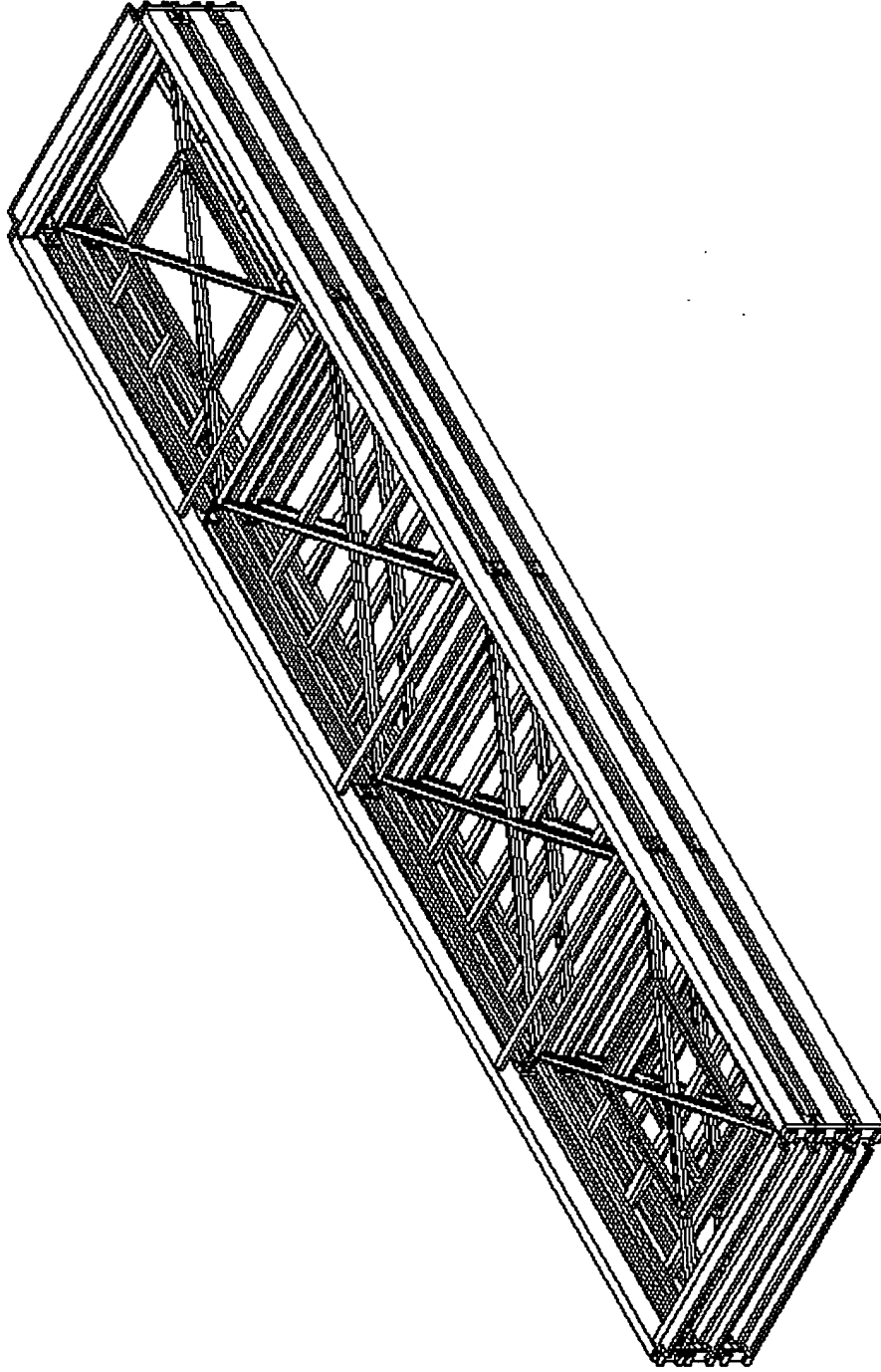


FIG. 41A: Step2 of disassemble and load process.

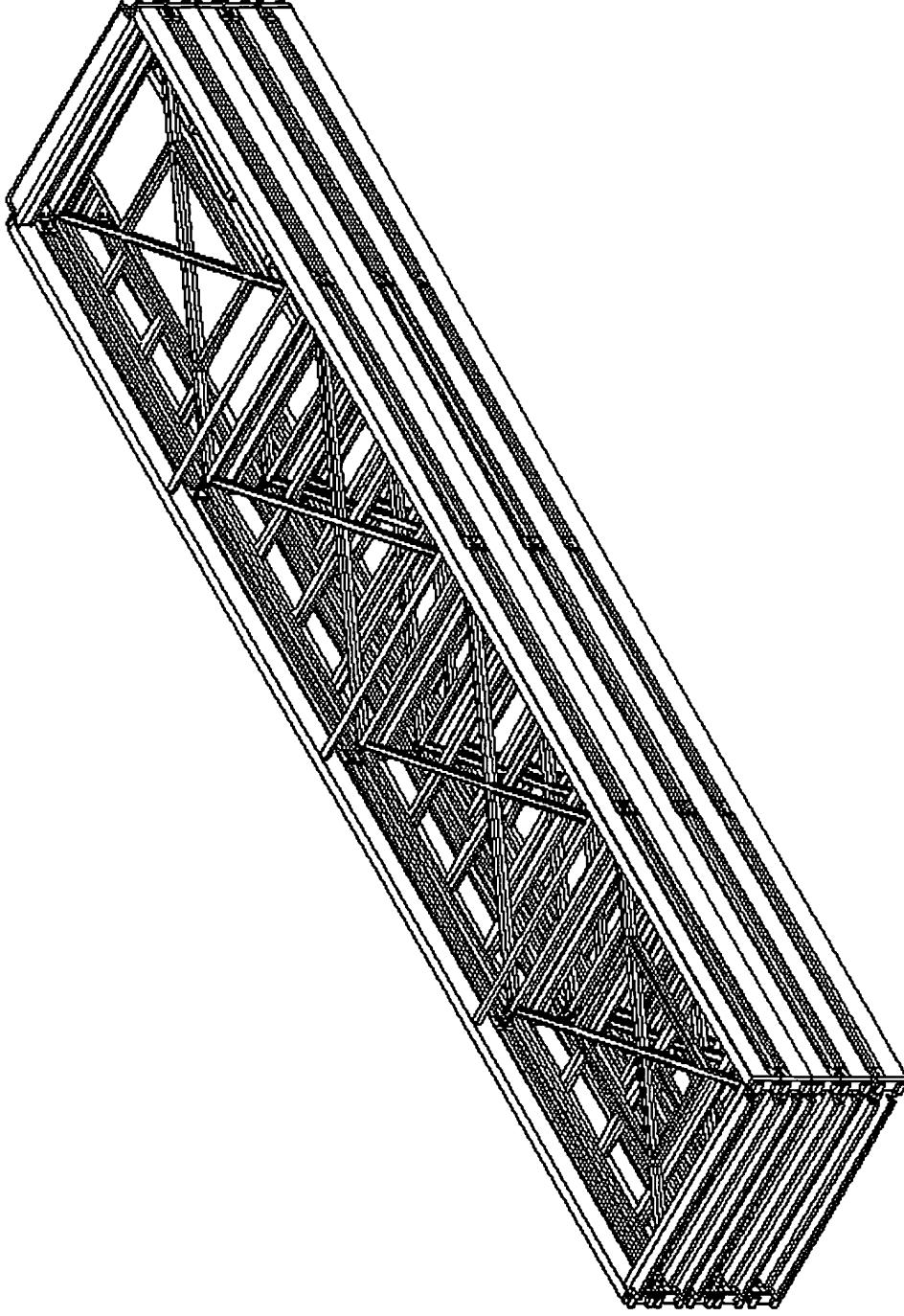


FIG. 42A: Step3 of disassemble and load process.

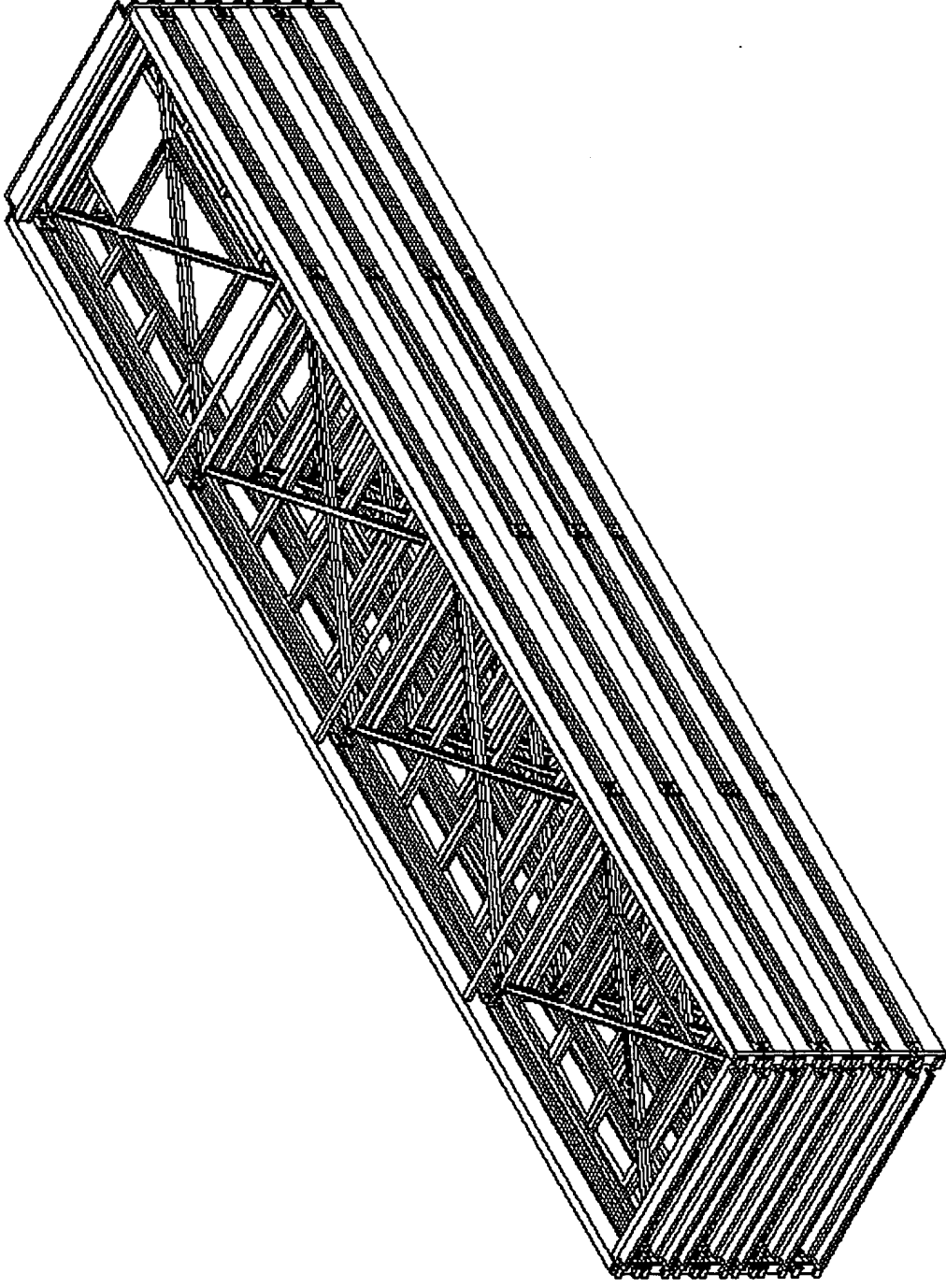


FIG. 43A: Step 4 of disassemble and load process.

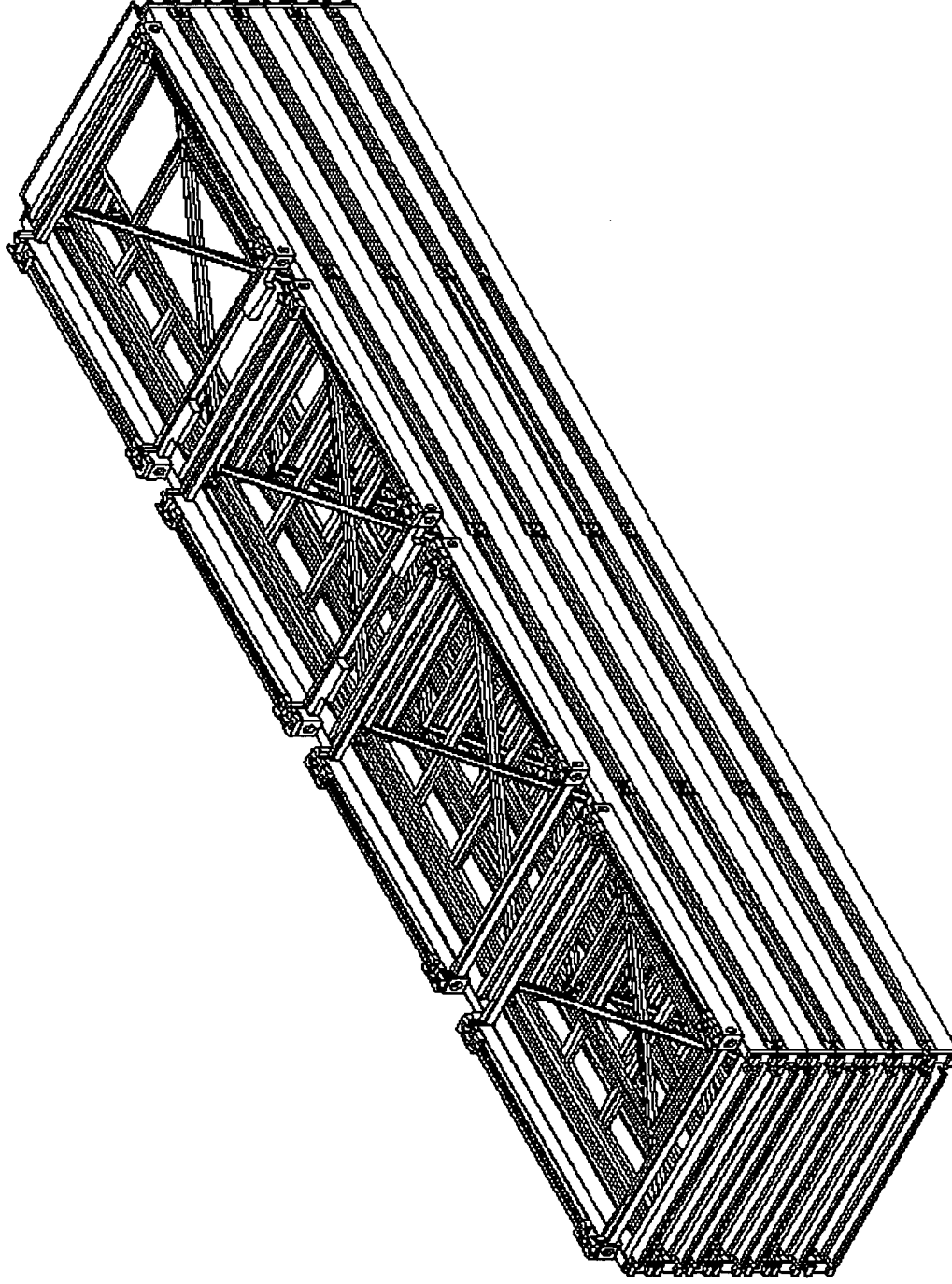


FIG. 44A: Step5 of disassemble and load process.

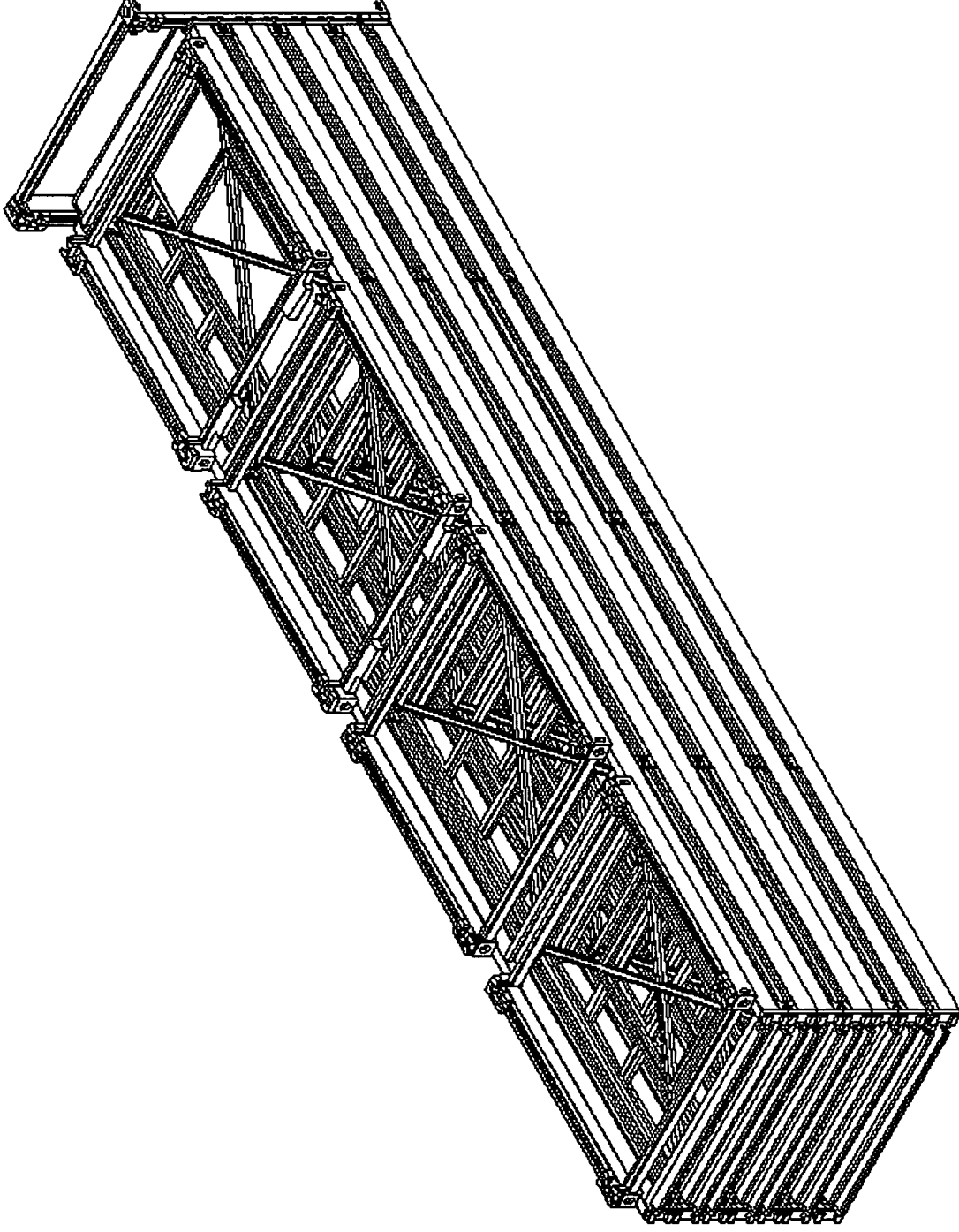


FIG. 45A: Step6 of disassemble and load process.

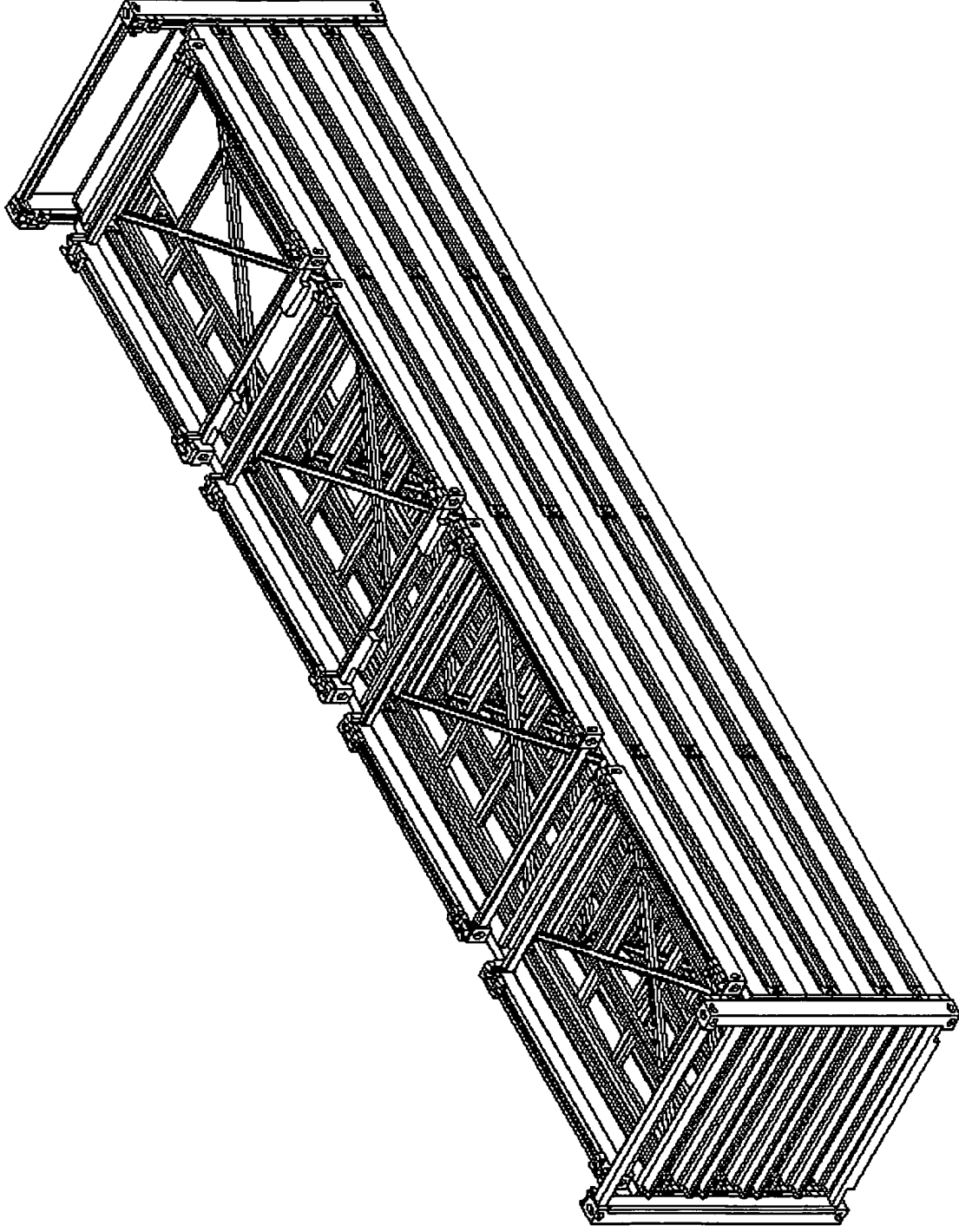


FIG. 46A: Step7 of disassemble and load process.

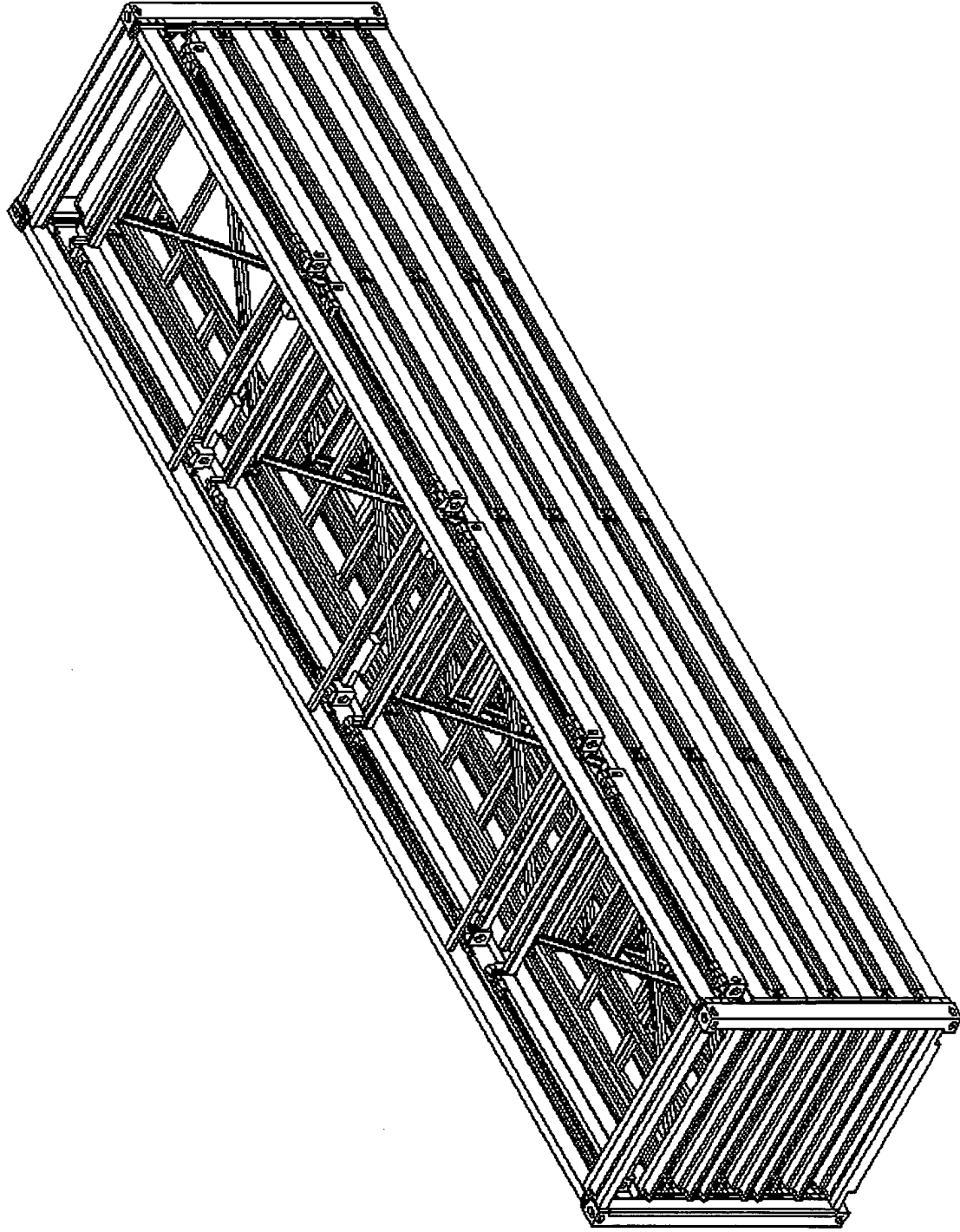


FIG. 47A: Step8 of disassemble and load process.

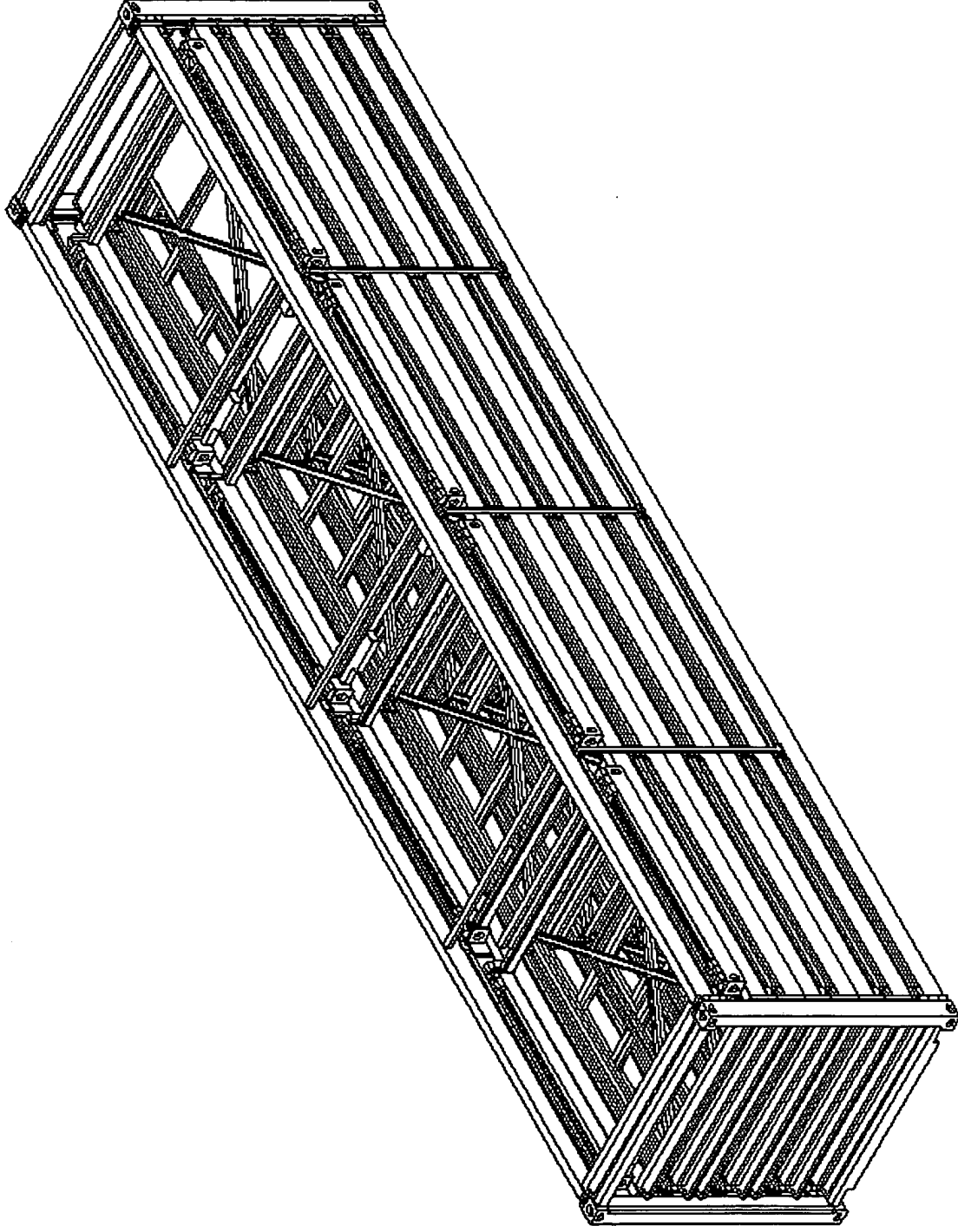


FIG. 48A: Step9 of disassemble and load process.

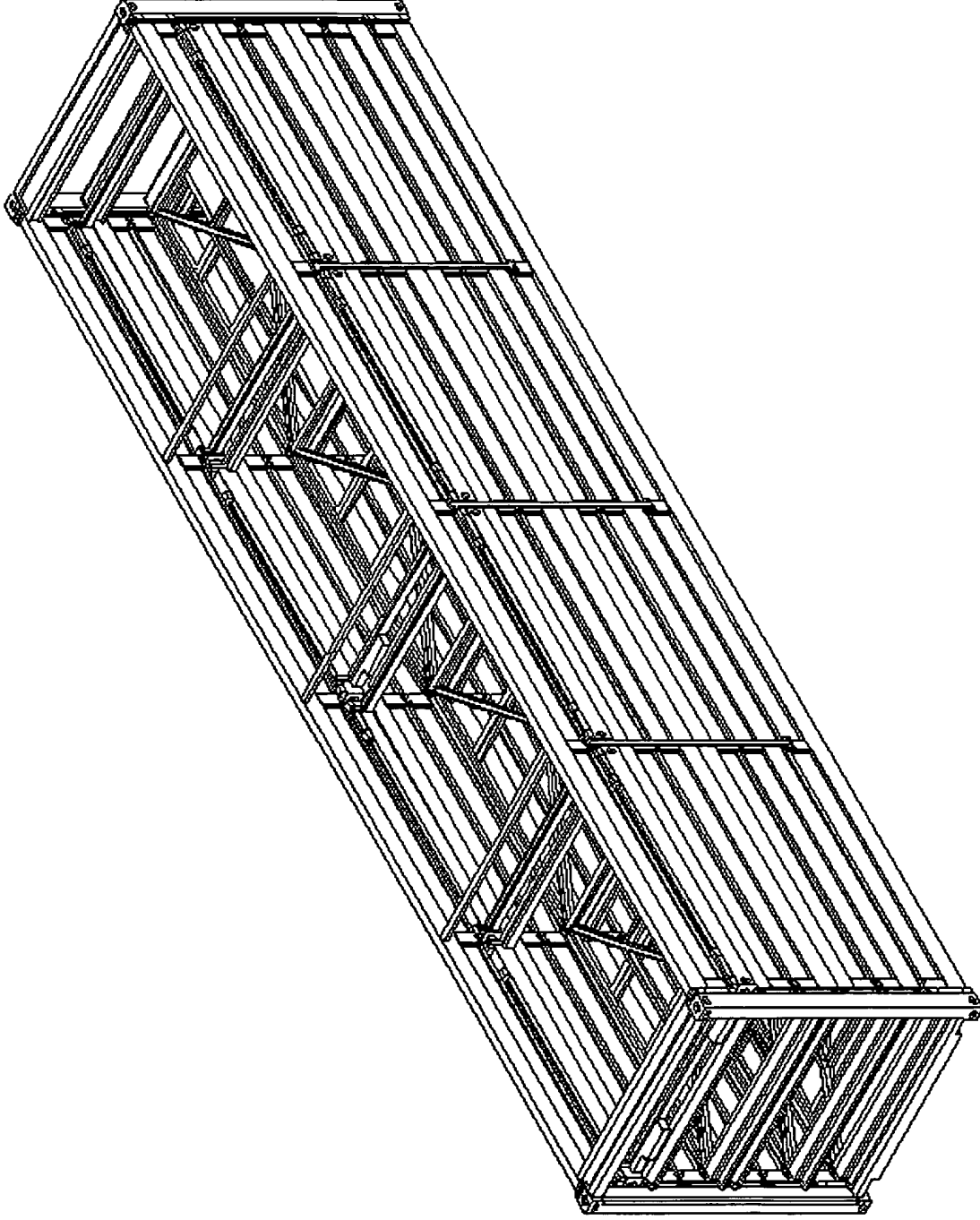


FIG. 1B: Basic isometric view of the 40 foot high cube container loaded with two collapsed high cube container frame panels.

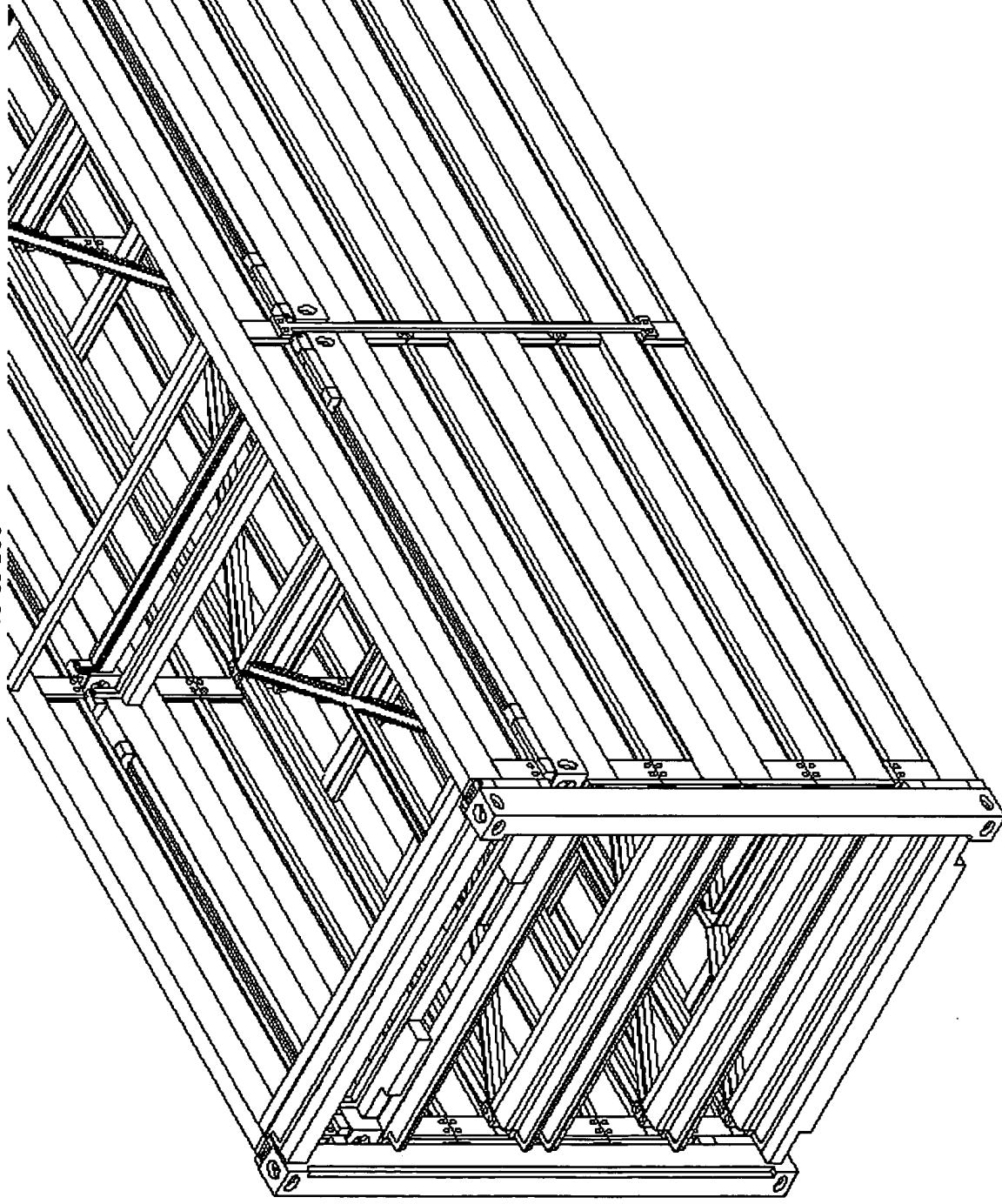


FIG. 2B: Detailed isometric view of the 40 foot high container loaded with two collapsed high cube container frame panels.

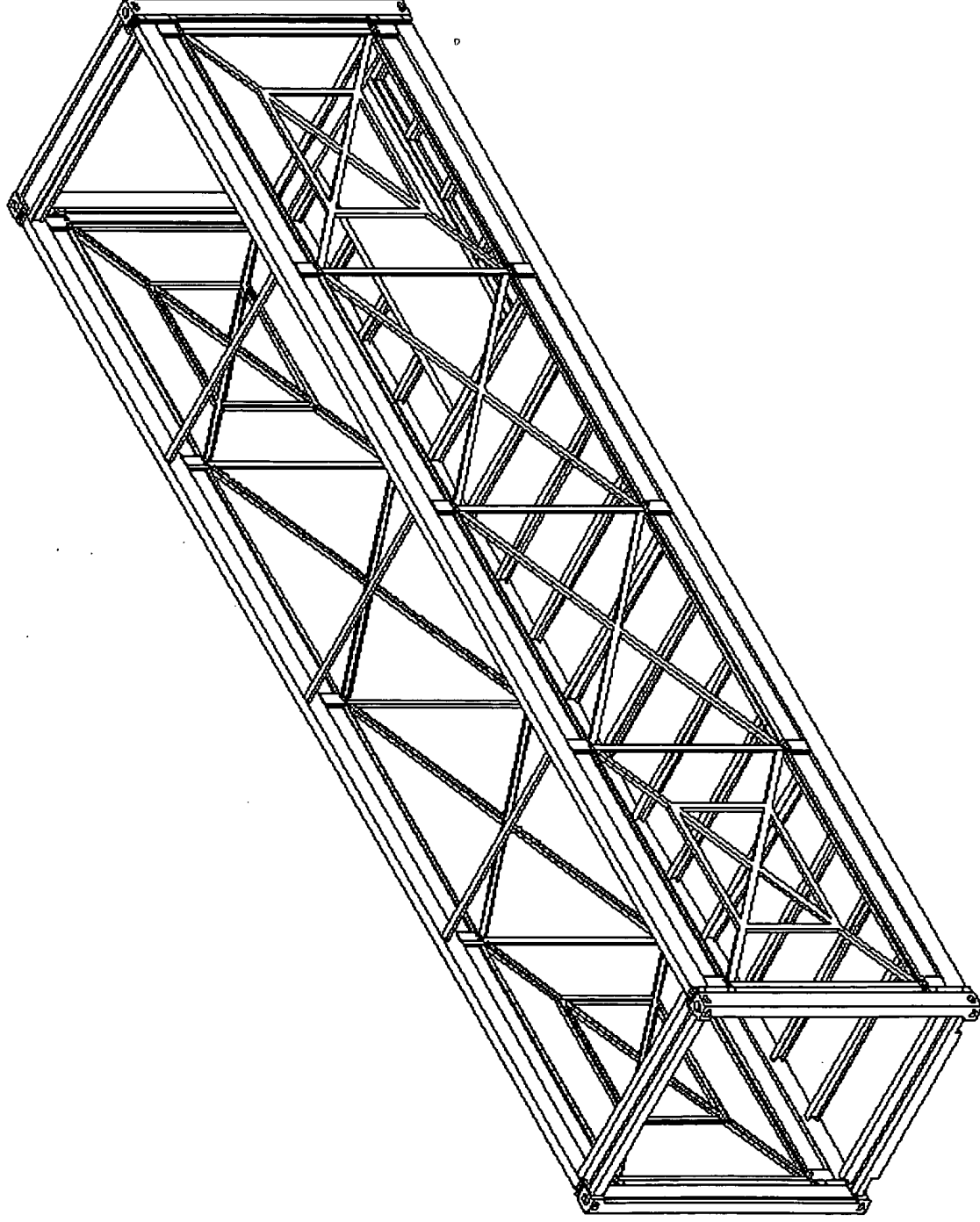


FIG. 3B: Basic isometric view of the 40 foot high cube collapsible cargo container frame.

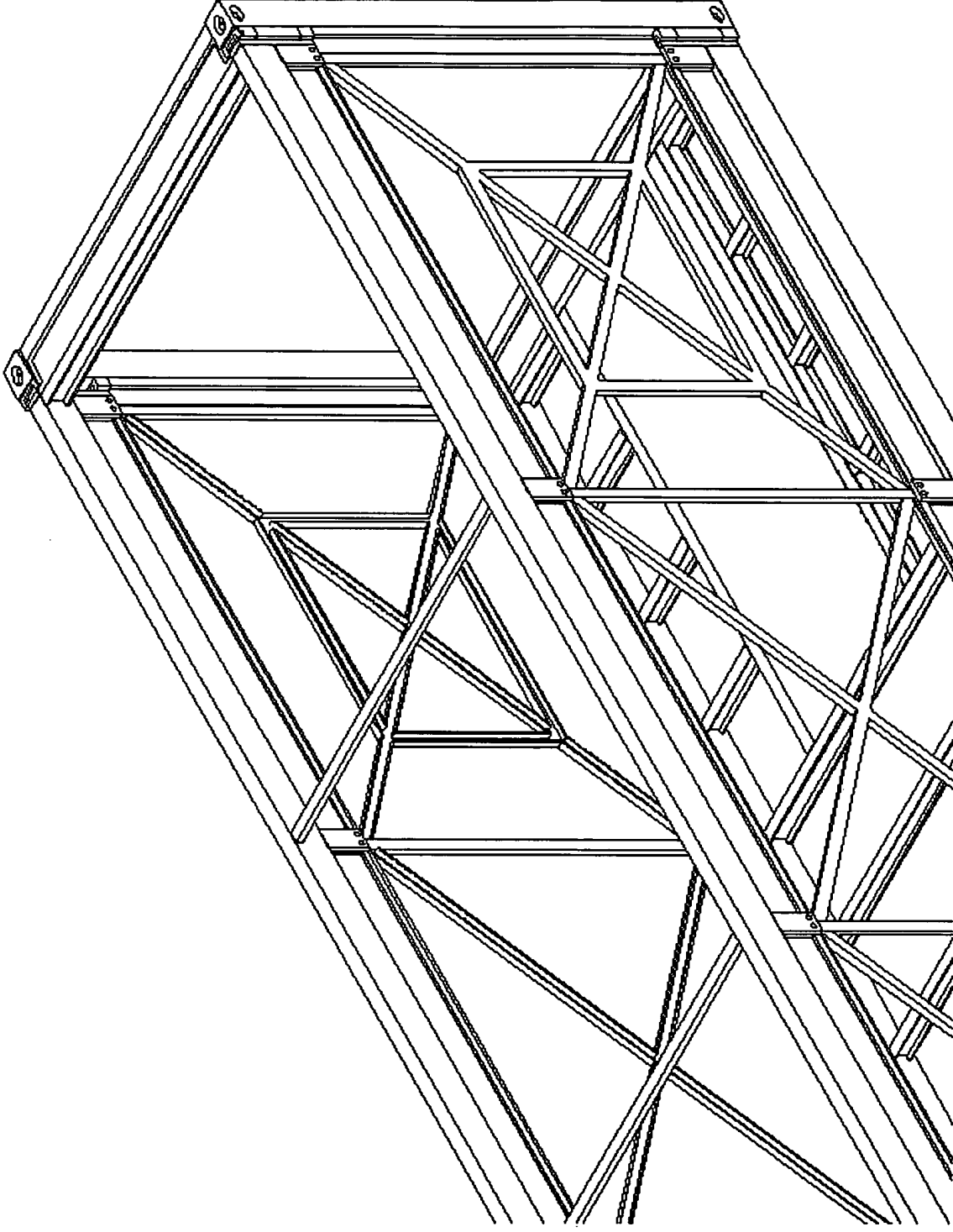


FIG. 4B: Enlarged isometric view of the left end of a 40 foot high cube collapsible cargo container frame.

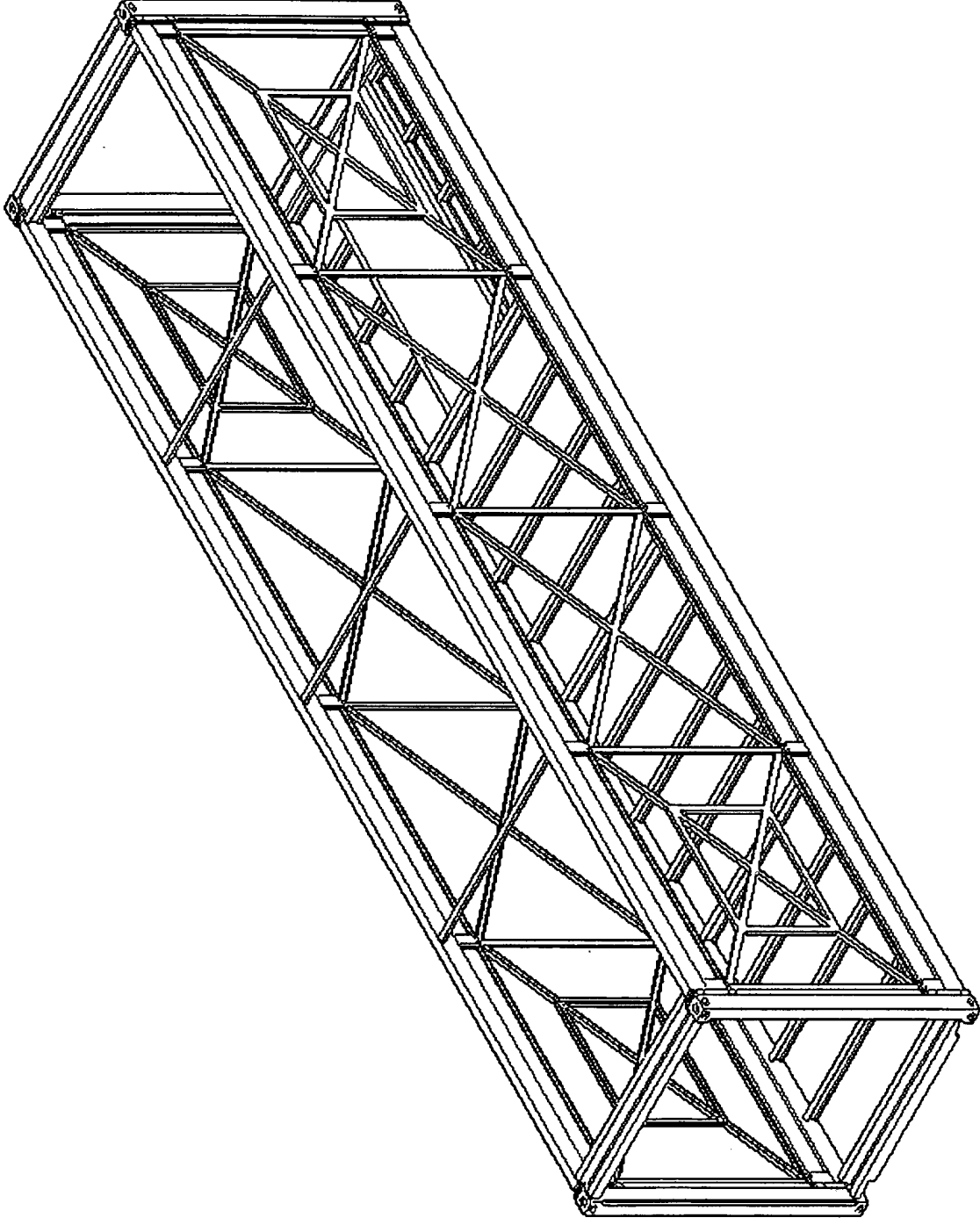


FIG. 5B: Opaque isometric view of the 40 foot high cube collapsible cargo container frame.

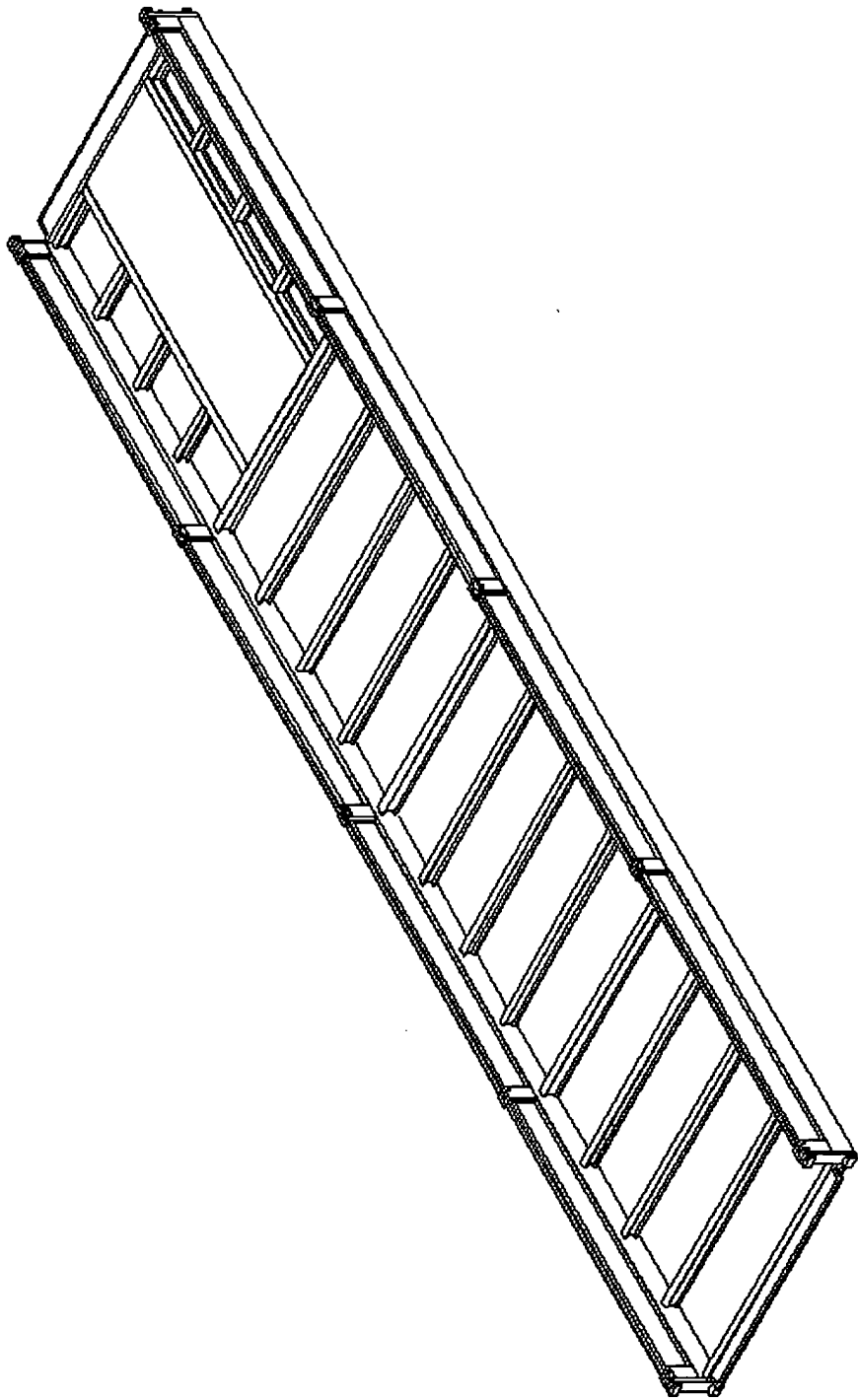


FIG. 6B: Basic isometric view of the floor frame.

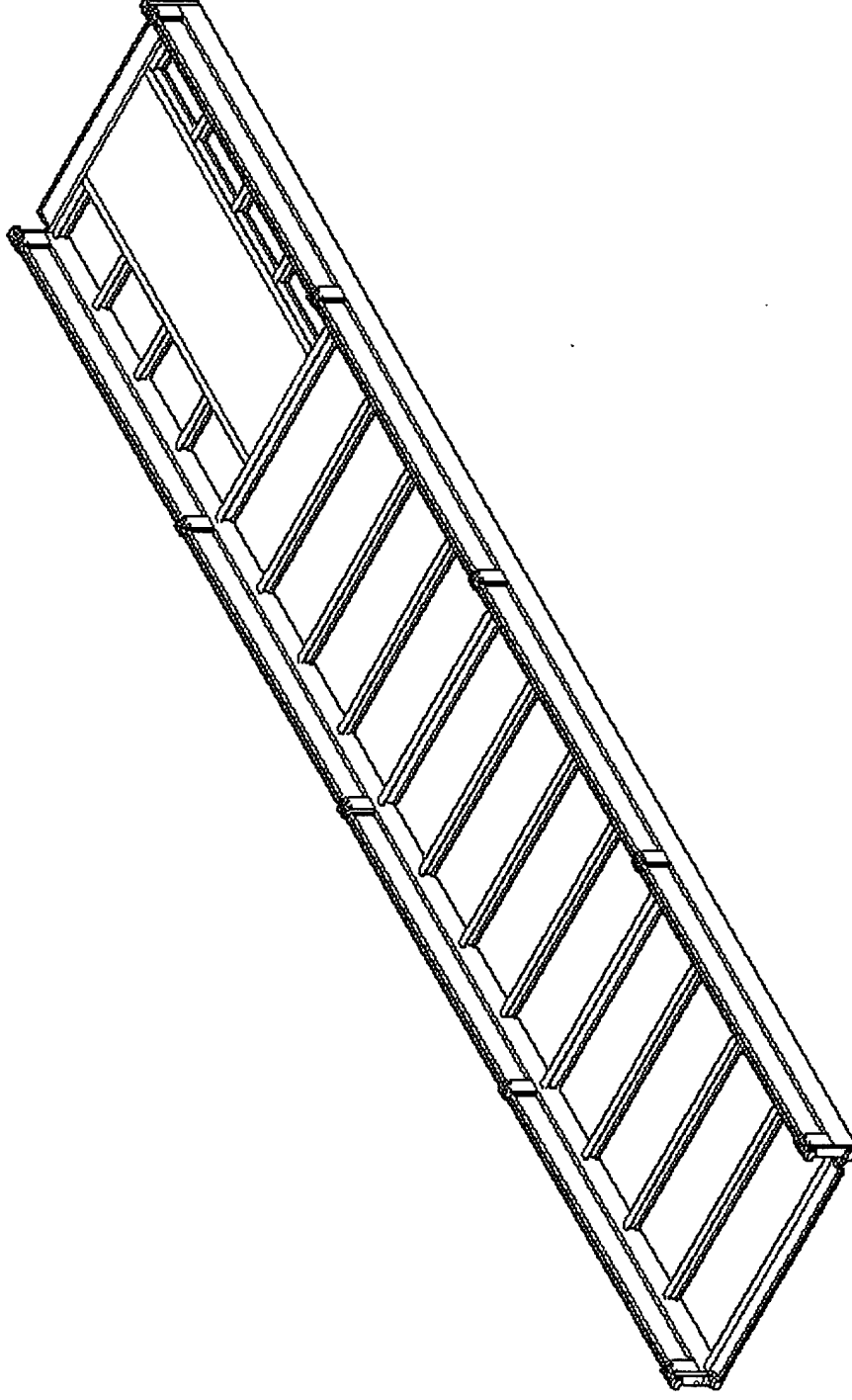


FIG. 7B: Opaque isometric view of the floor frame.

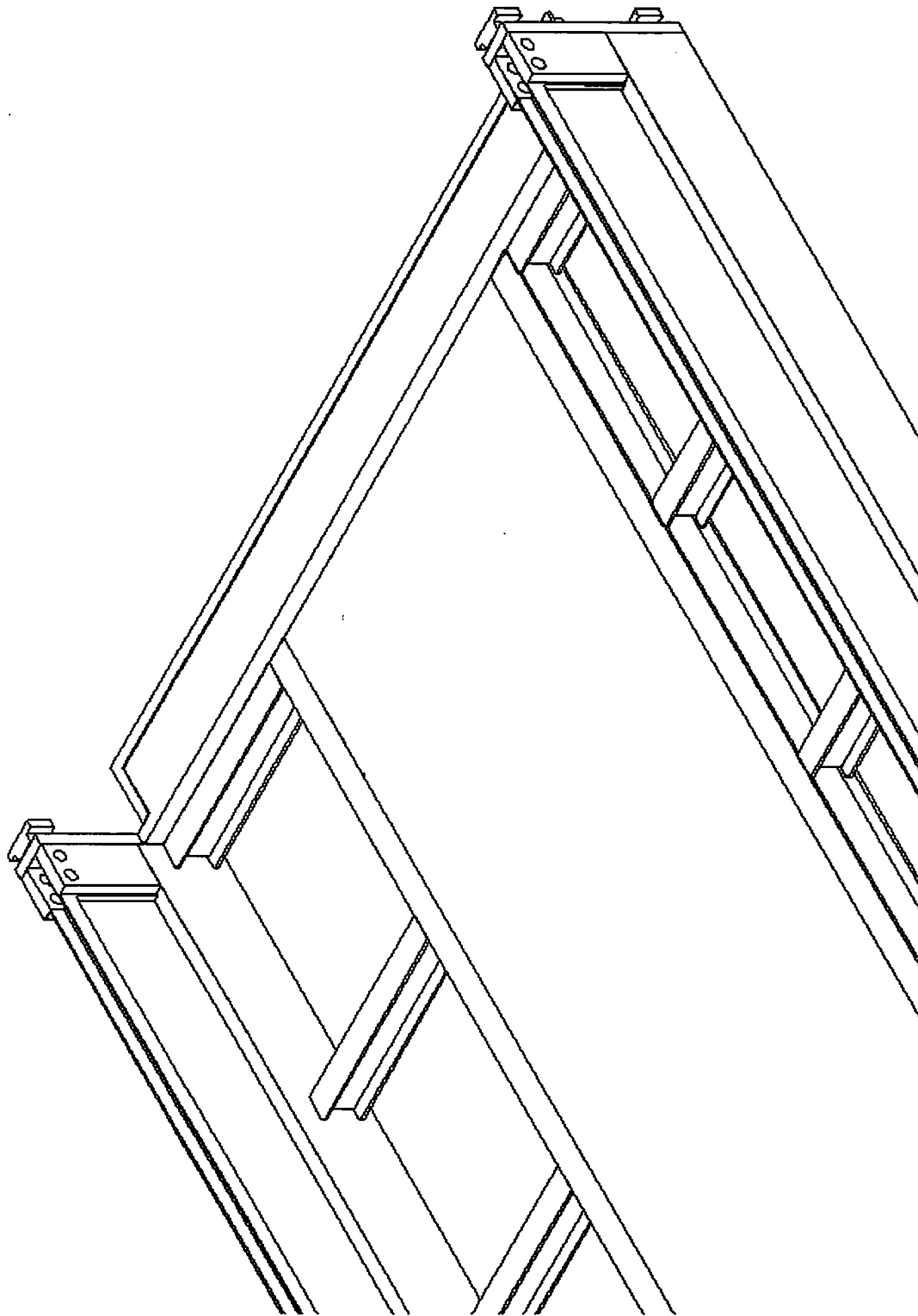


FIG. 8B: Isometric view of the left end of the floor frame.

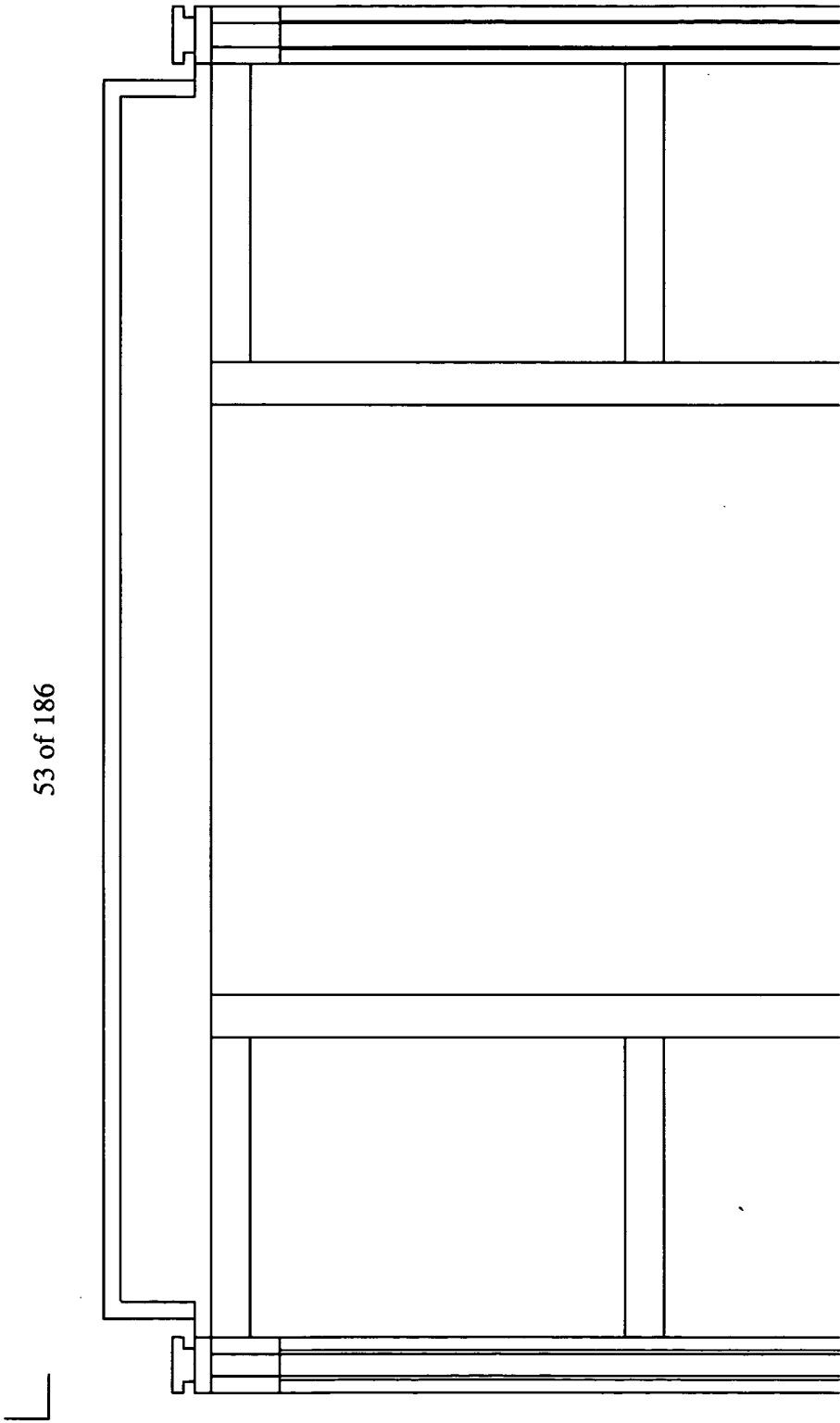


FIG. 9B: Top view of the left end of a floor frame.

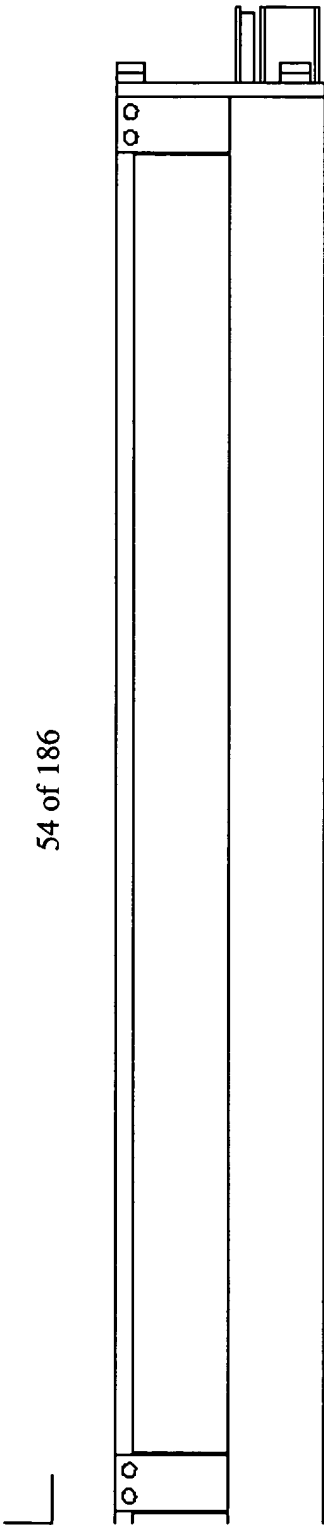


FIG. 10B: Front view of the left end of a floor frame.

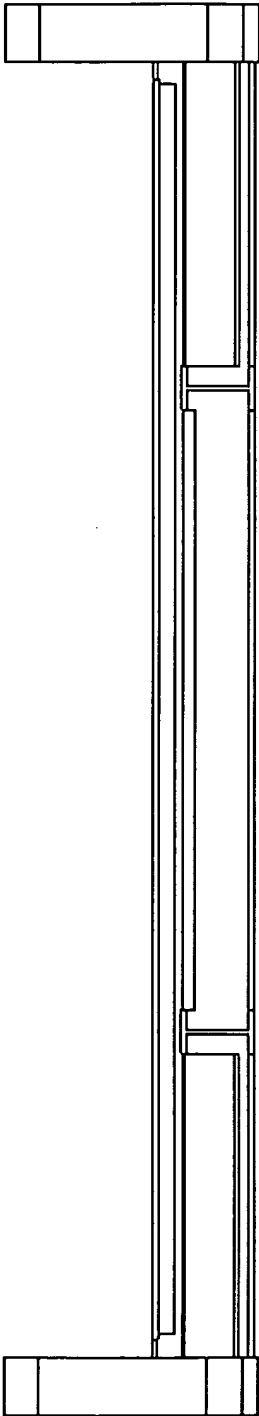


FIG. 11B: Left view of a floor frame.

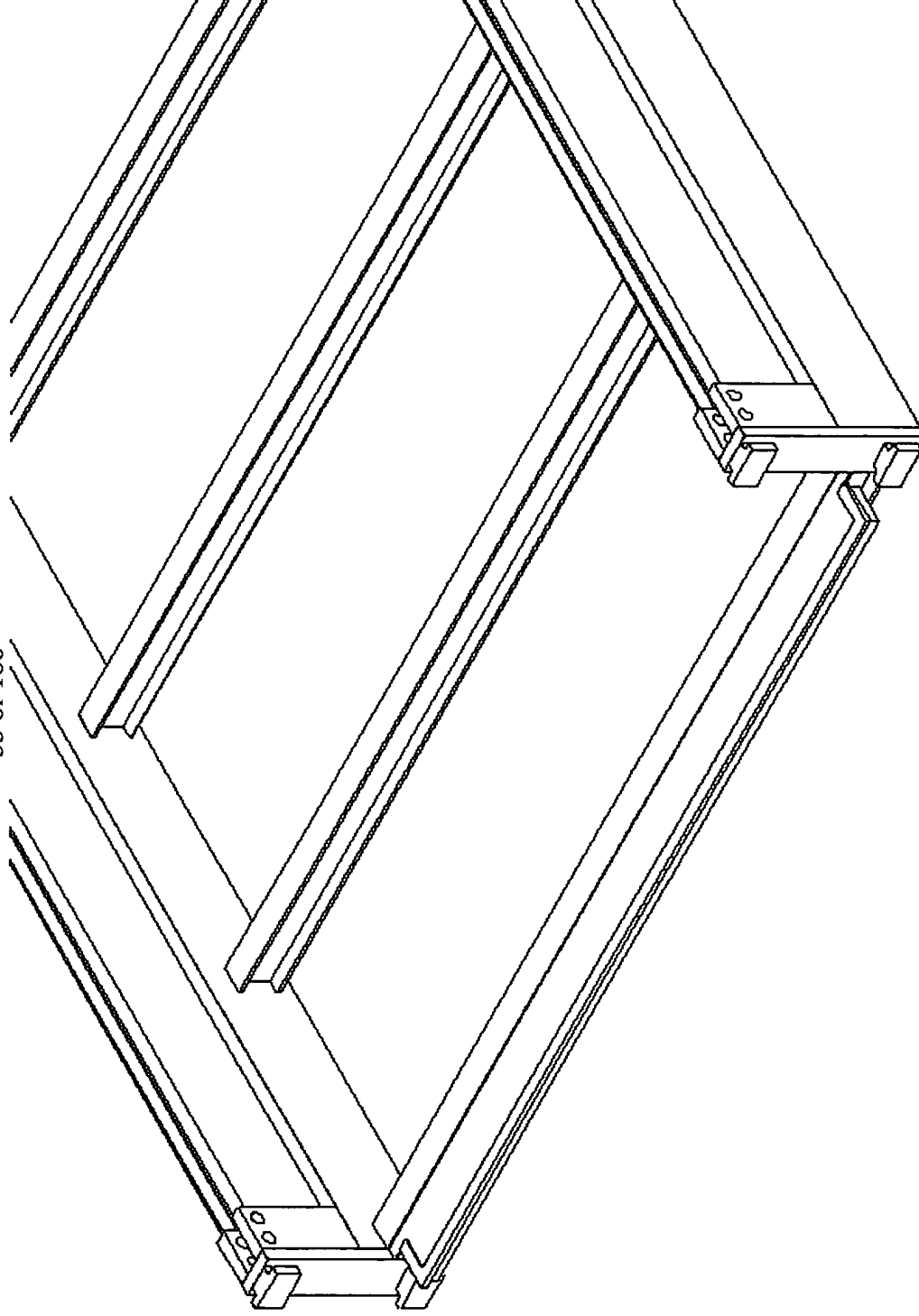


FIG. 12B: Isometric view of the right end of a floor frame.

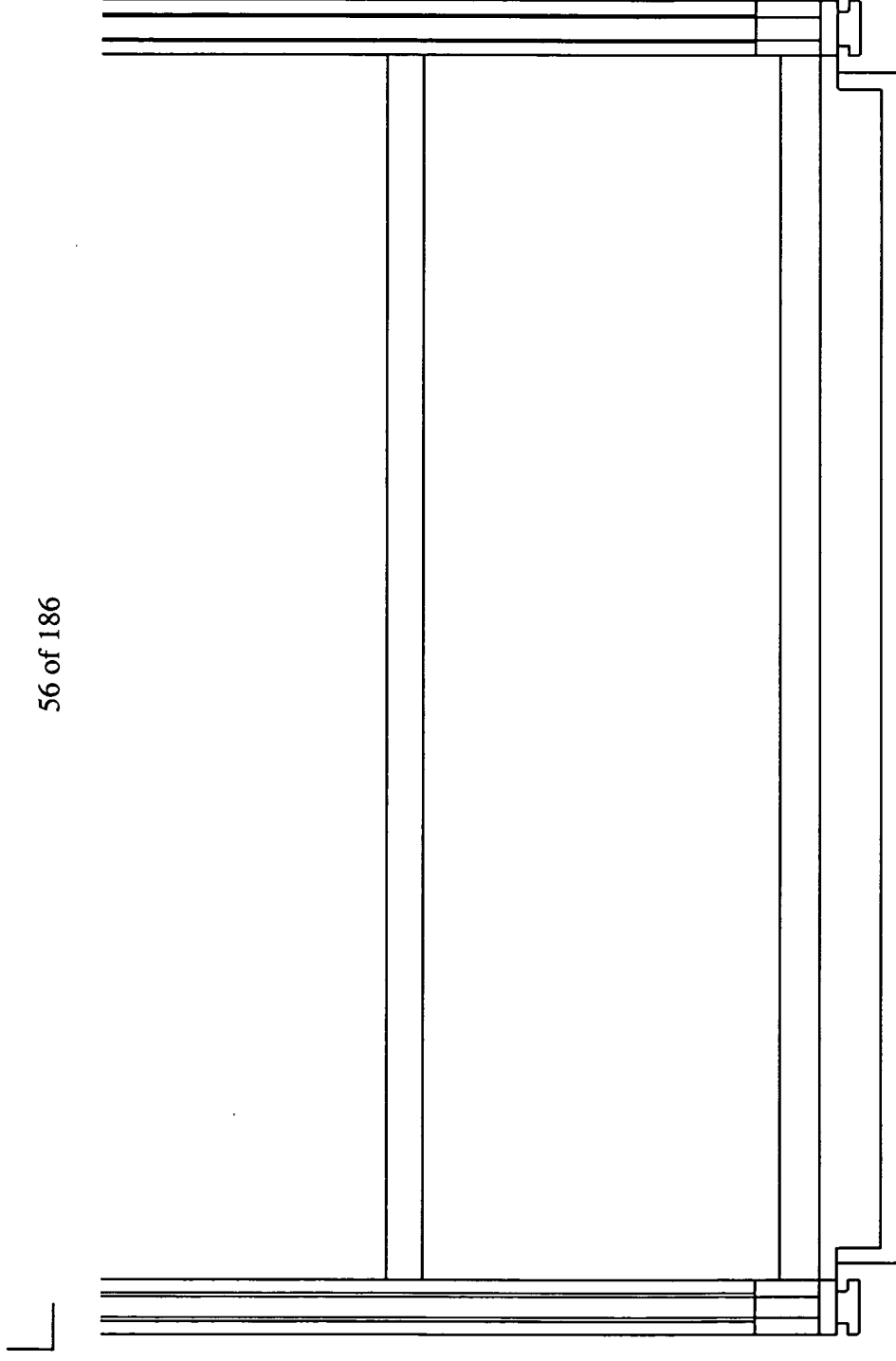


FIG. 13B: Top view of the right end of a floor frame.

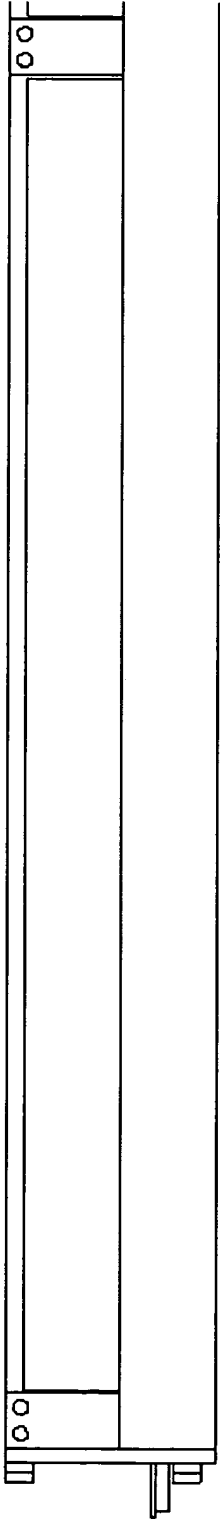


FIG. 14B: Front view of the right end of a floor frame.

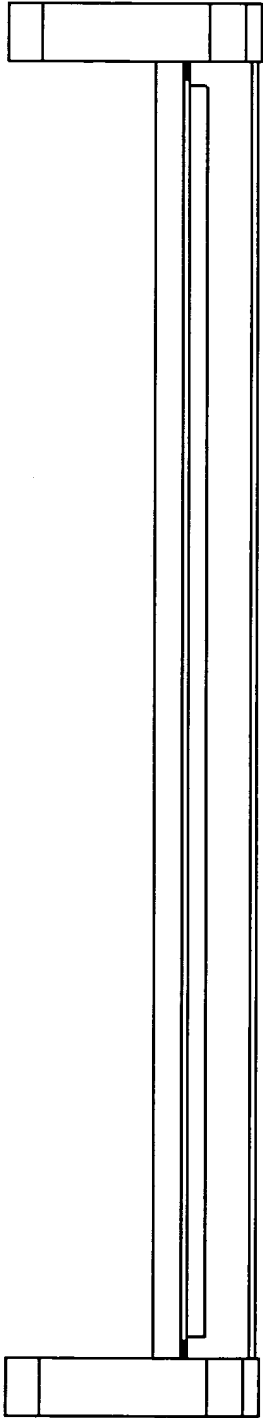


FIG. 15B: Right view of a floor frame.

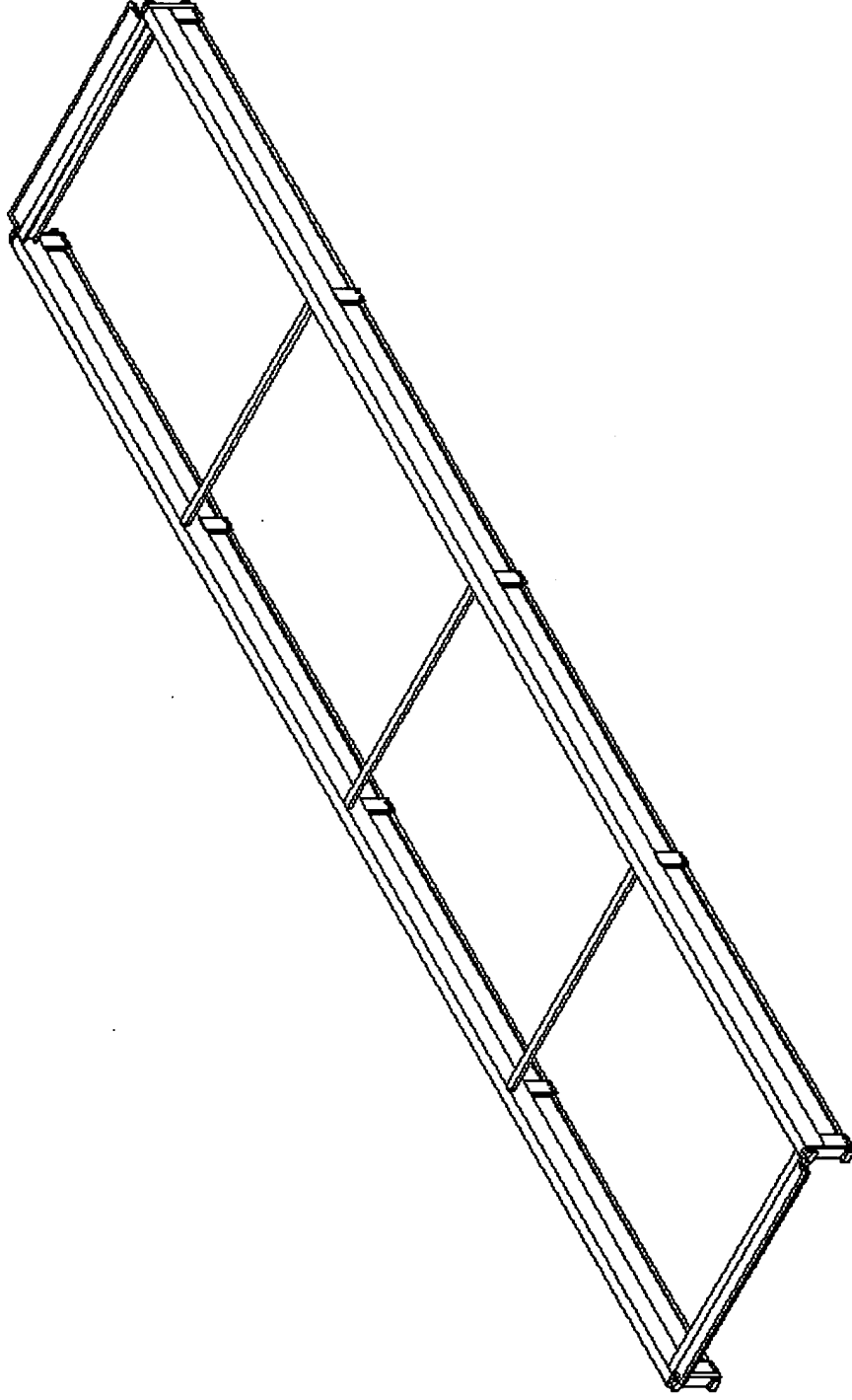


FIG. 16B: Isometric view of a ceiling frame.

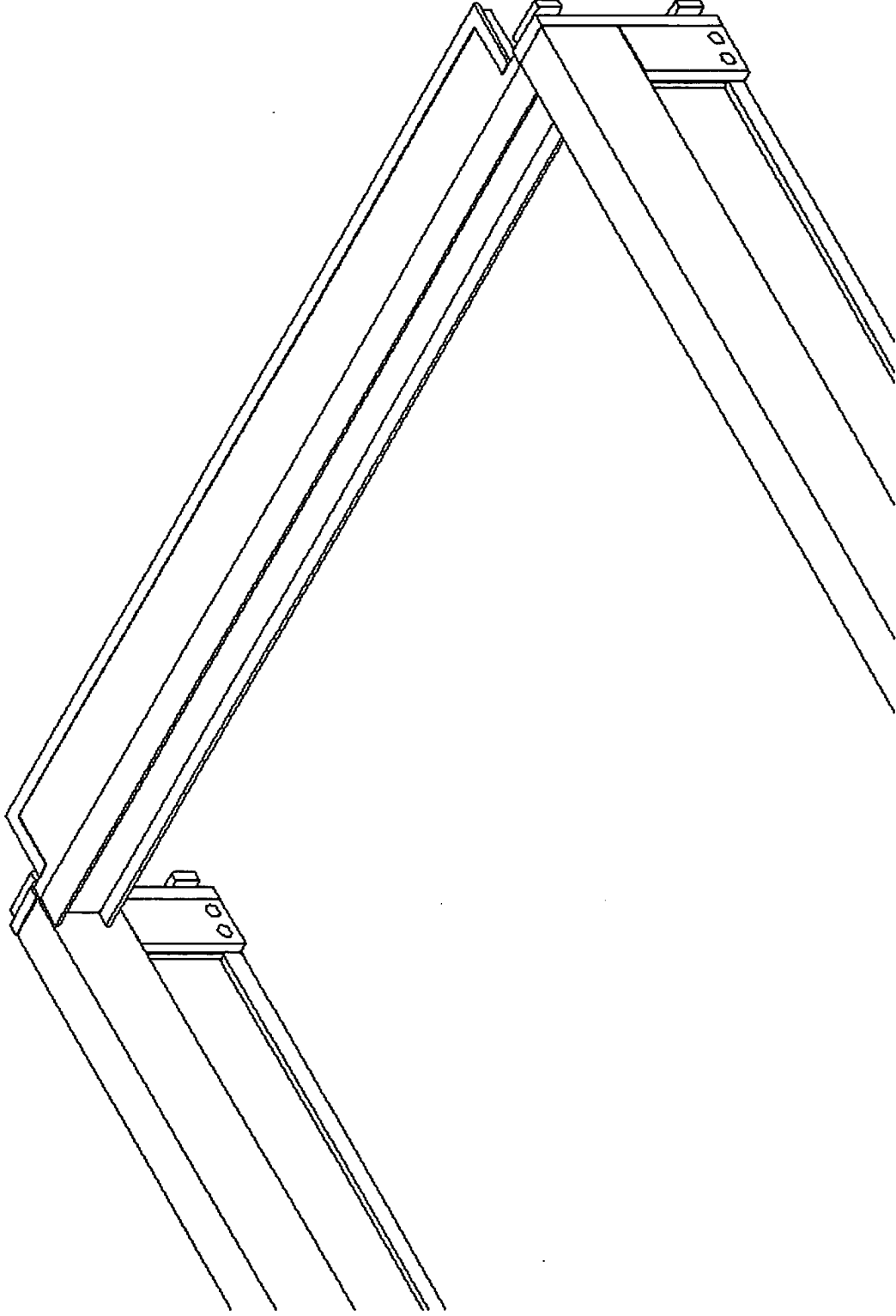


FIG. 17B: Isometric view of the left end of a ceiling frame.

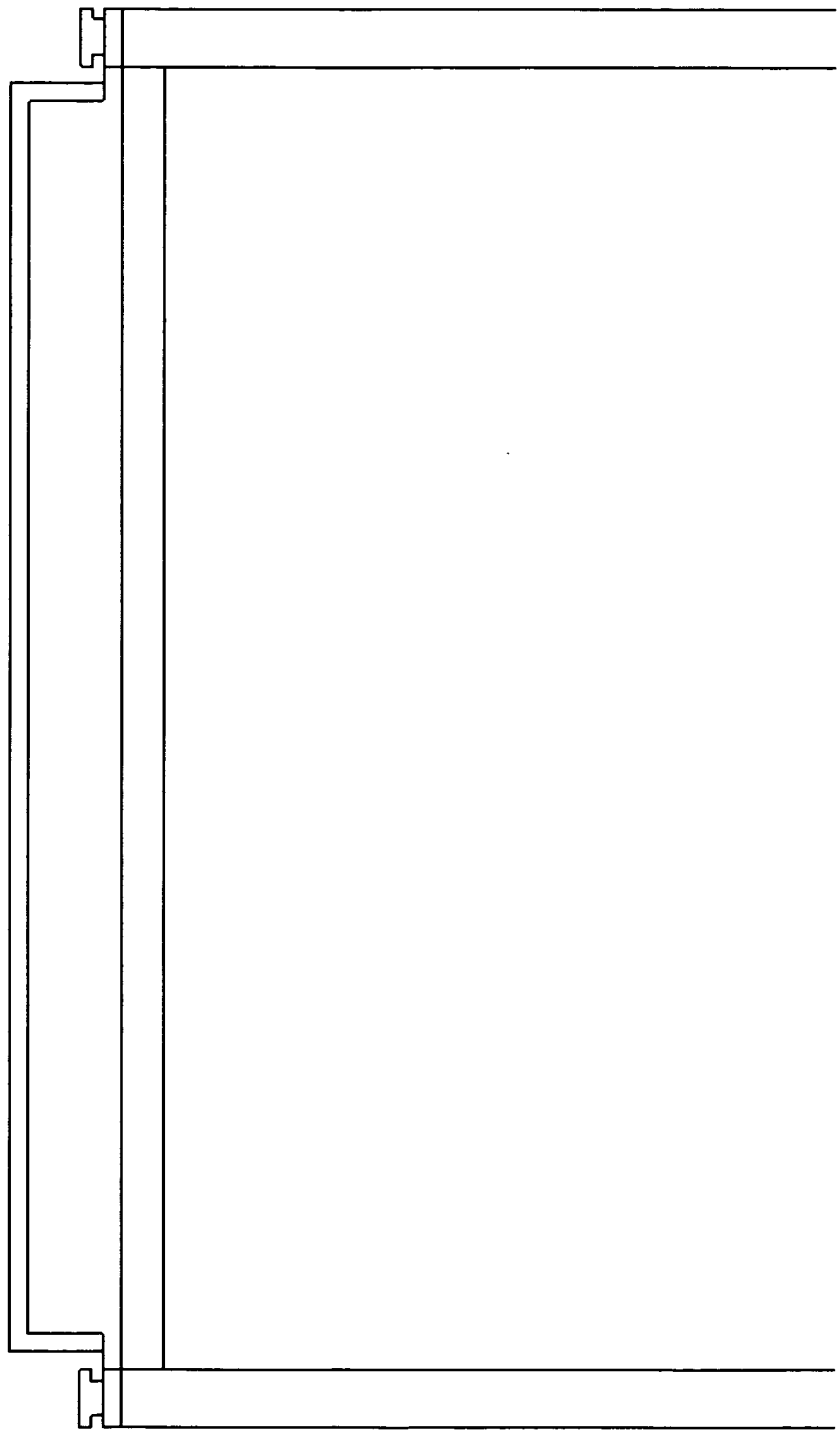


FIG. 18B: Top view of the left end of a ceiling frame.

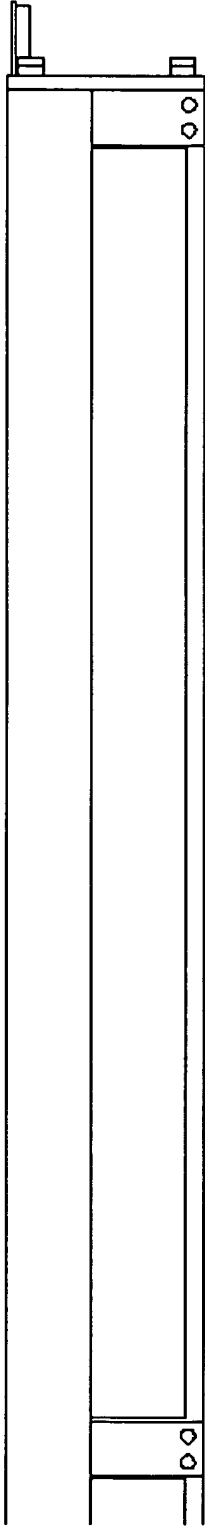


FIG. 19B: the ceiling frame front view on its left.

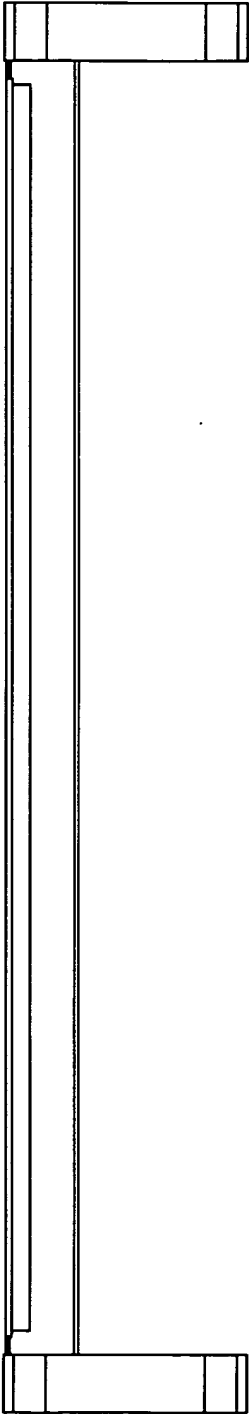


FIG. 20B: Left view of a ceiling frame.



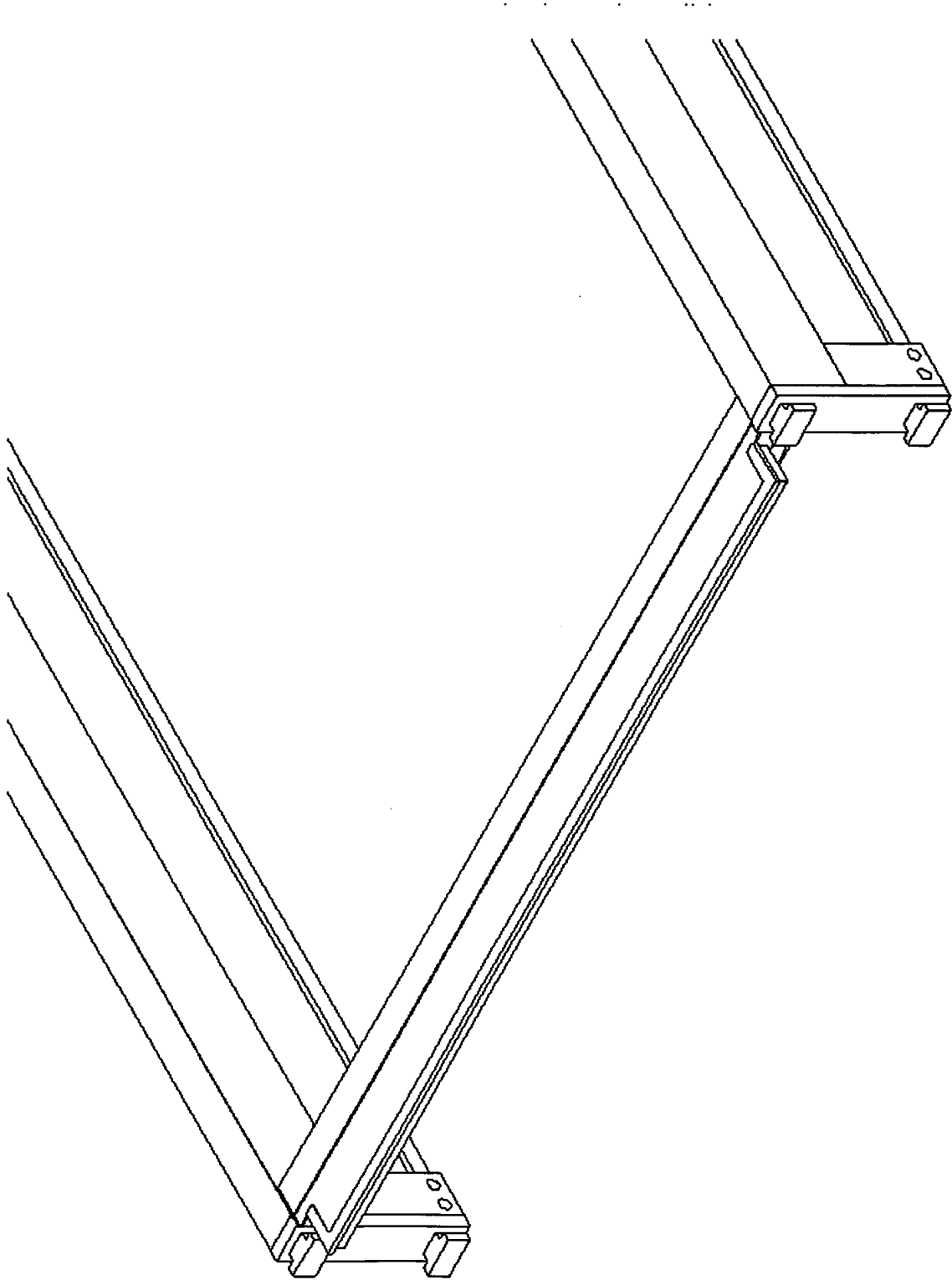


FIG. 21B: Isometric view of the right end of a ceiling frame.

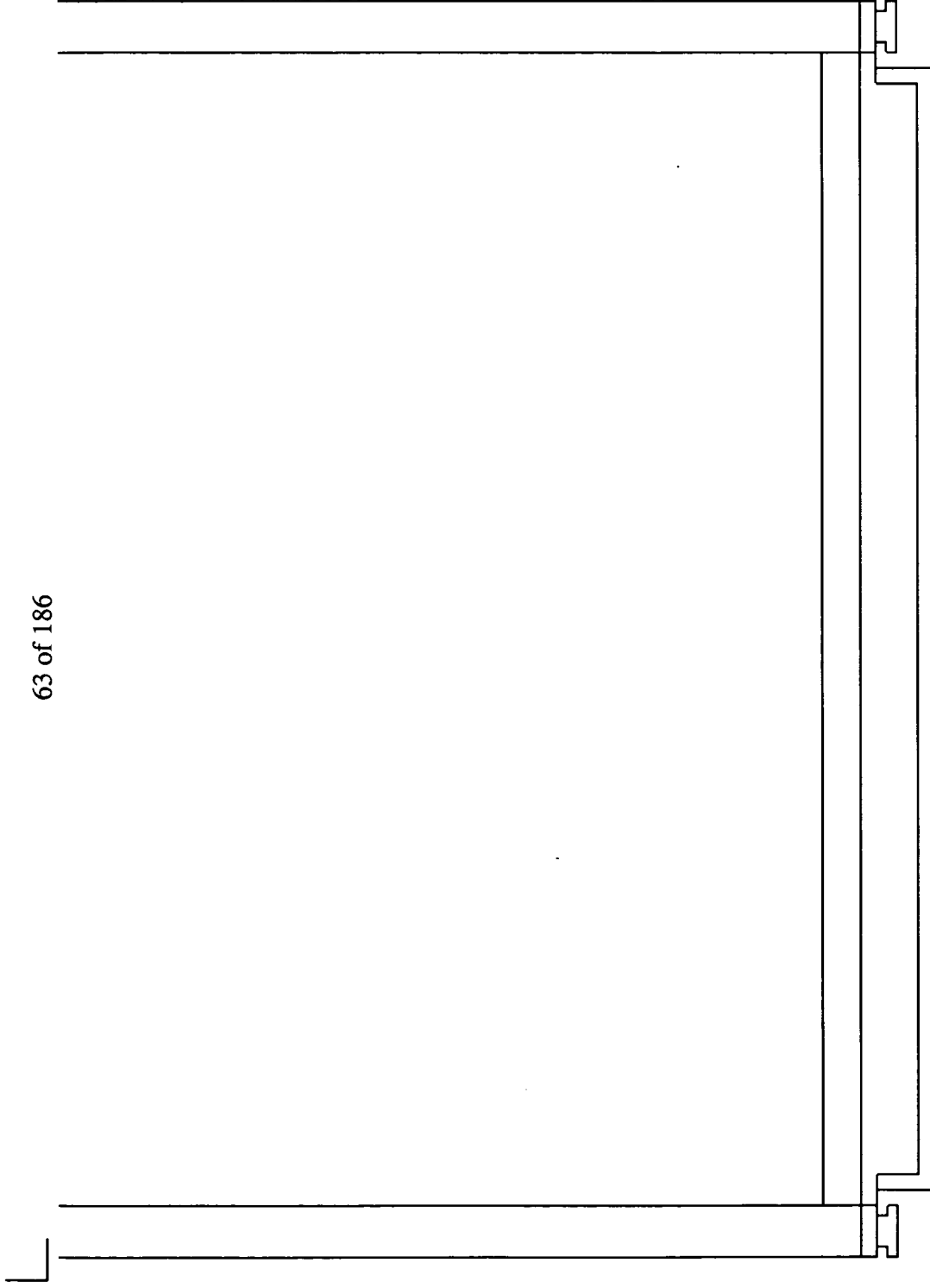


FIG. 22B: Top view of the right end of a ceiling frame.



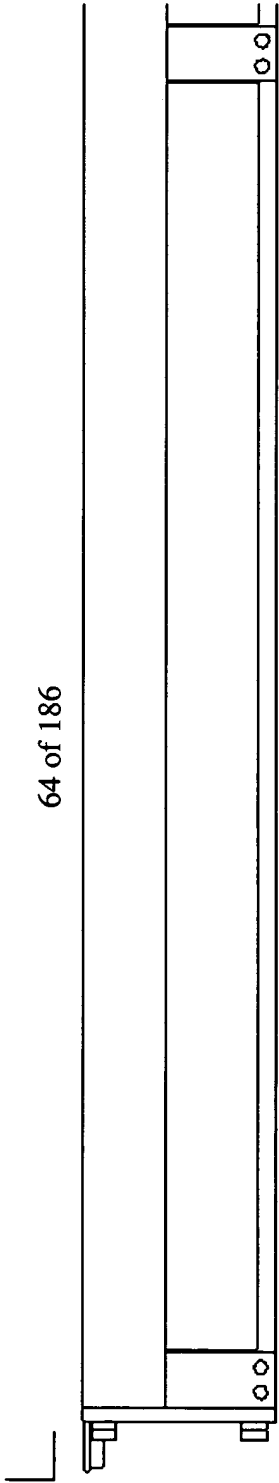


FIG. 23B: Front view of the right end of a ceiling frame.

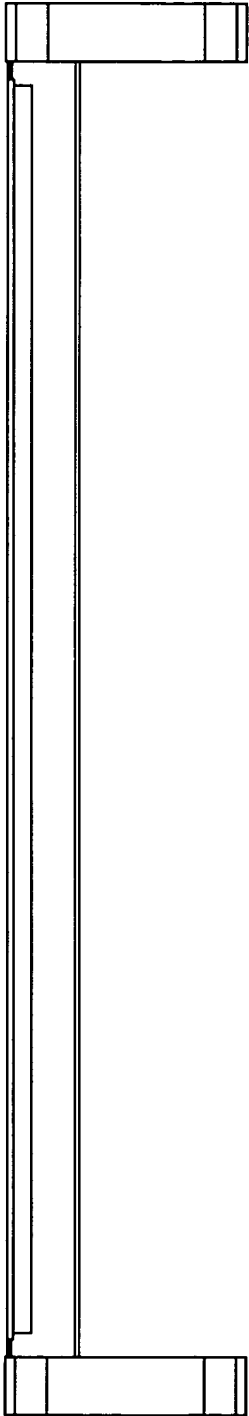


FIG. 24B: Right view of a ceiling frame.

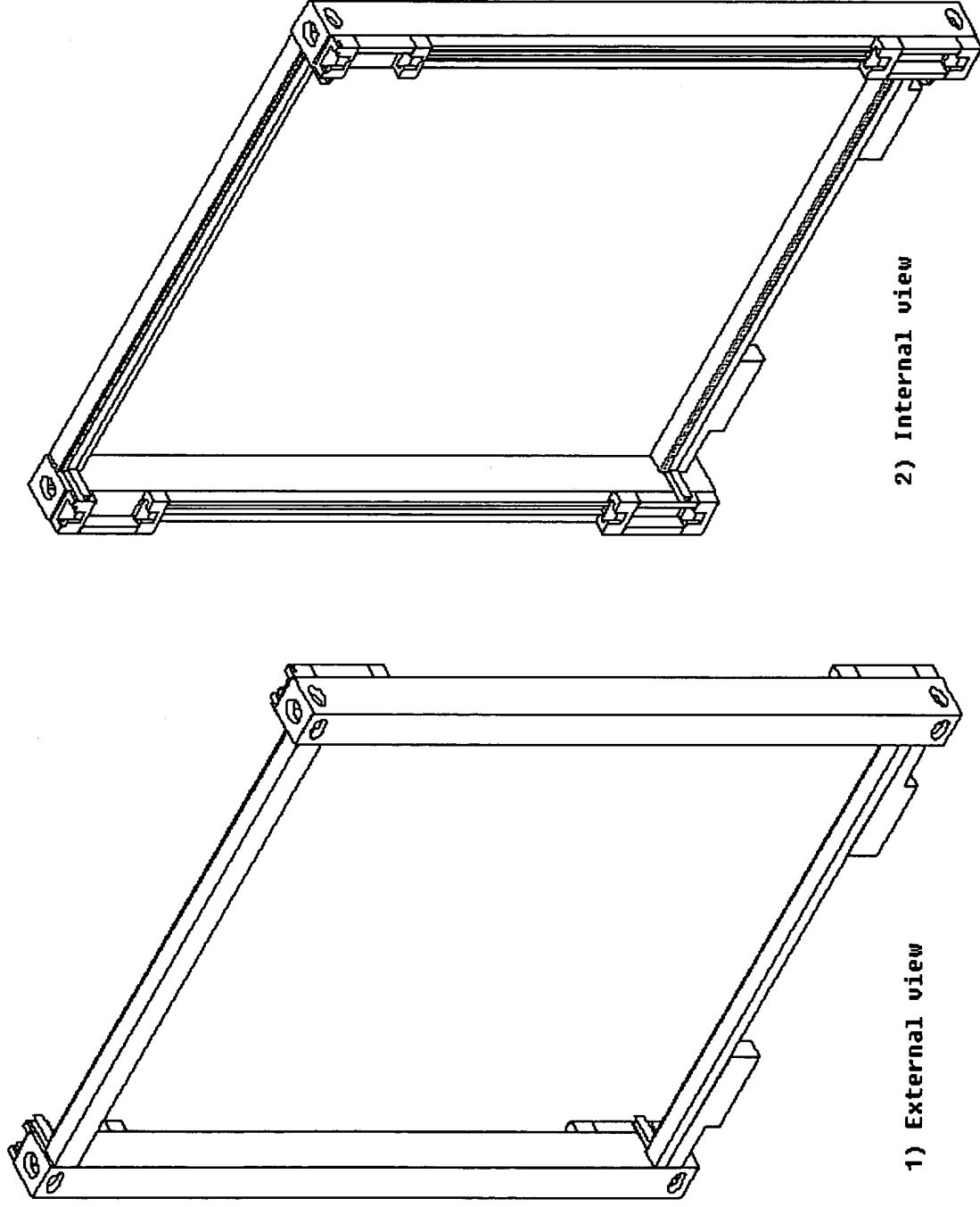


FIG. 25B: Isometric views of a left frame.

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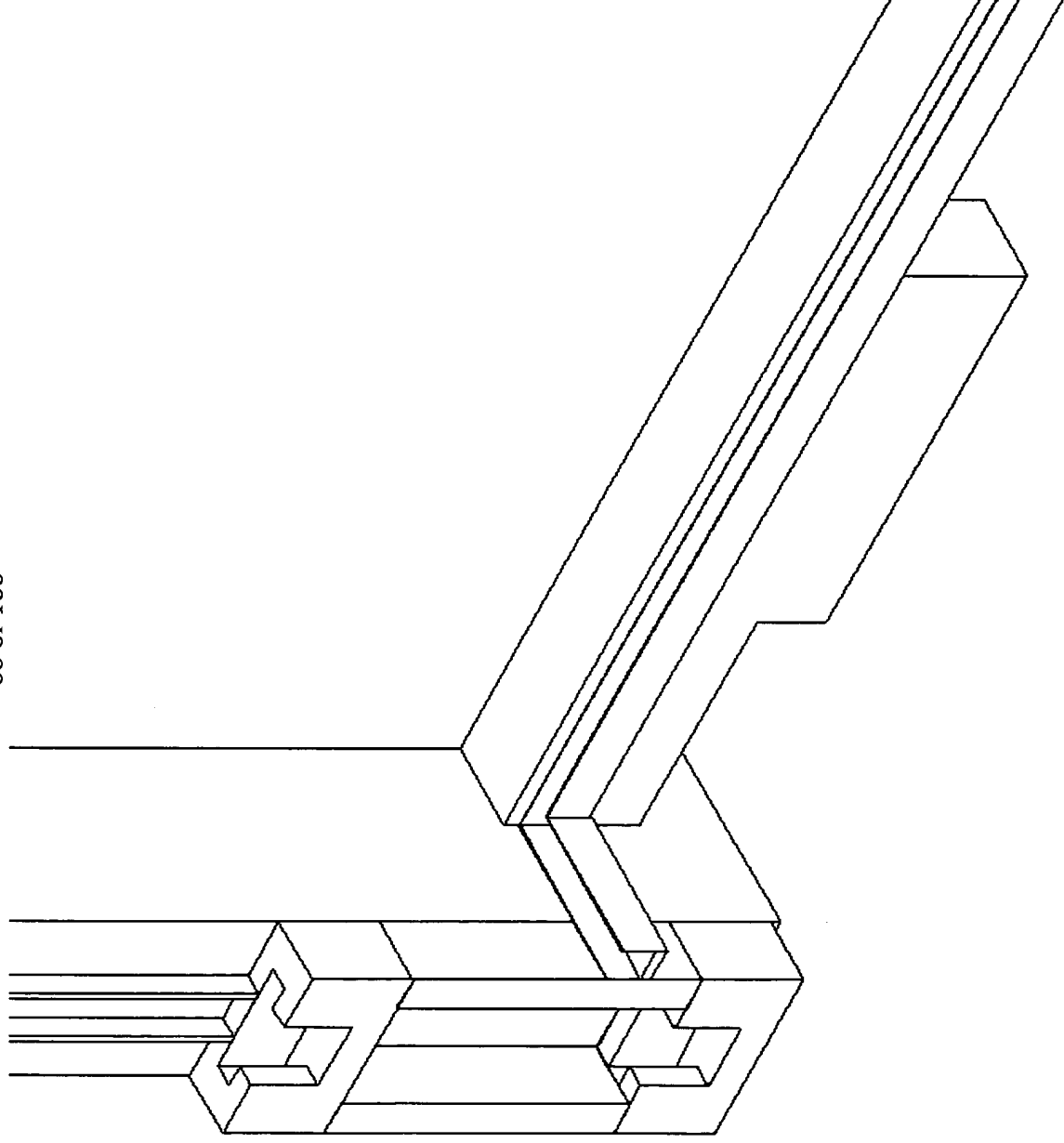


FIG. 26B: Isometric internal view of the corner of a left frame.

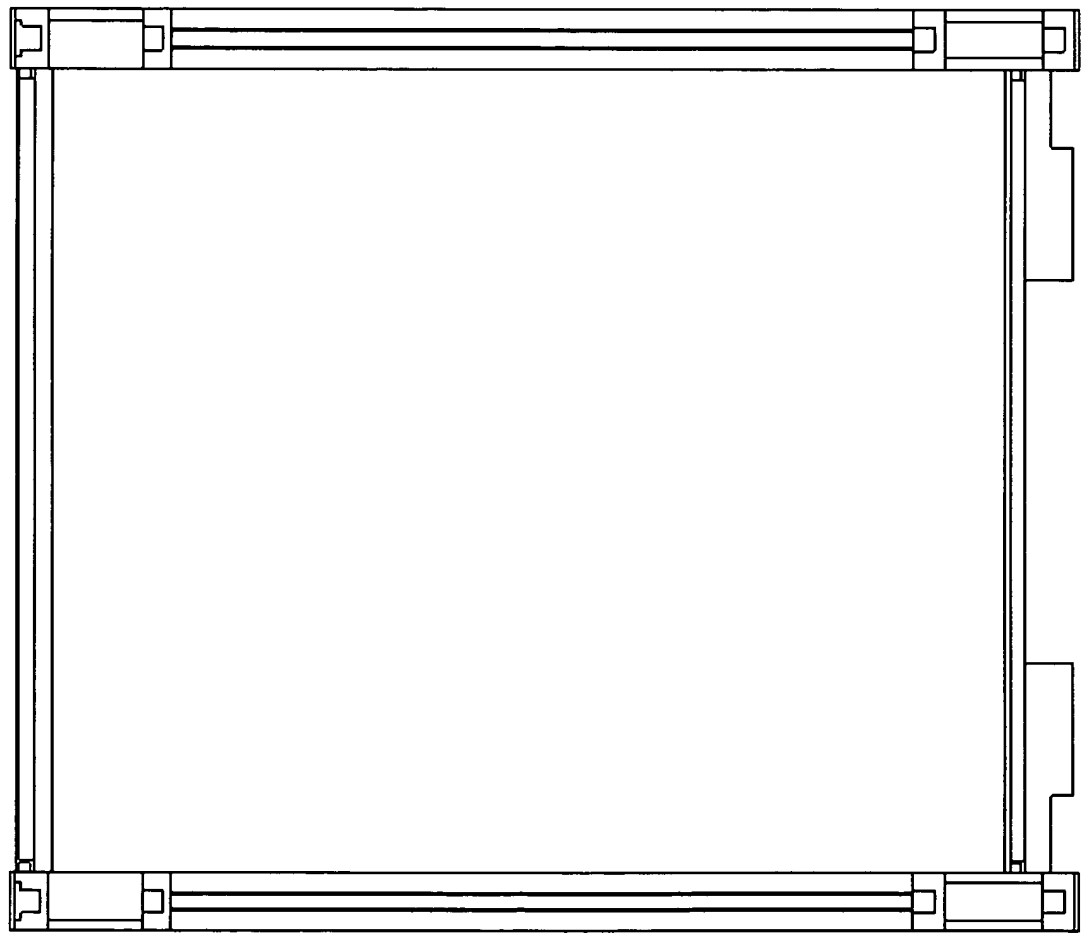


FIG. 27B: Internal view of a left frame.

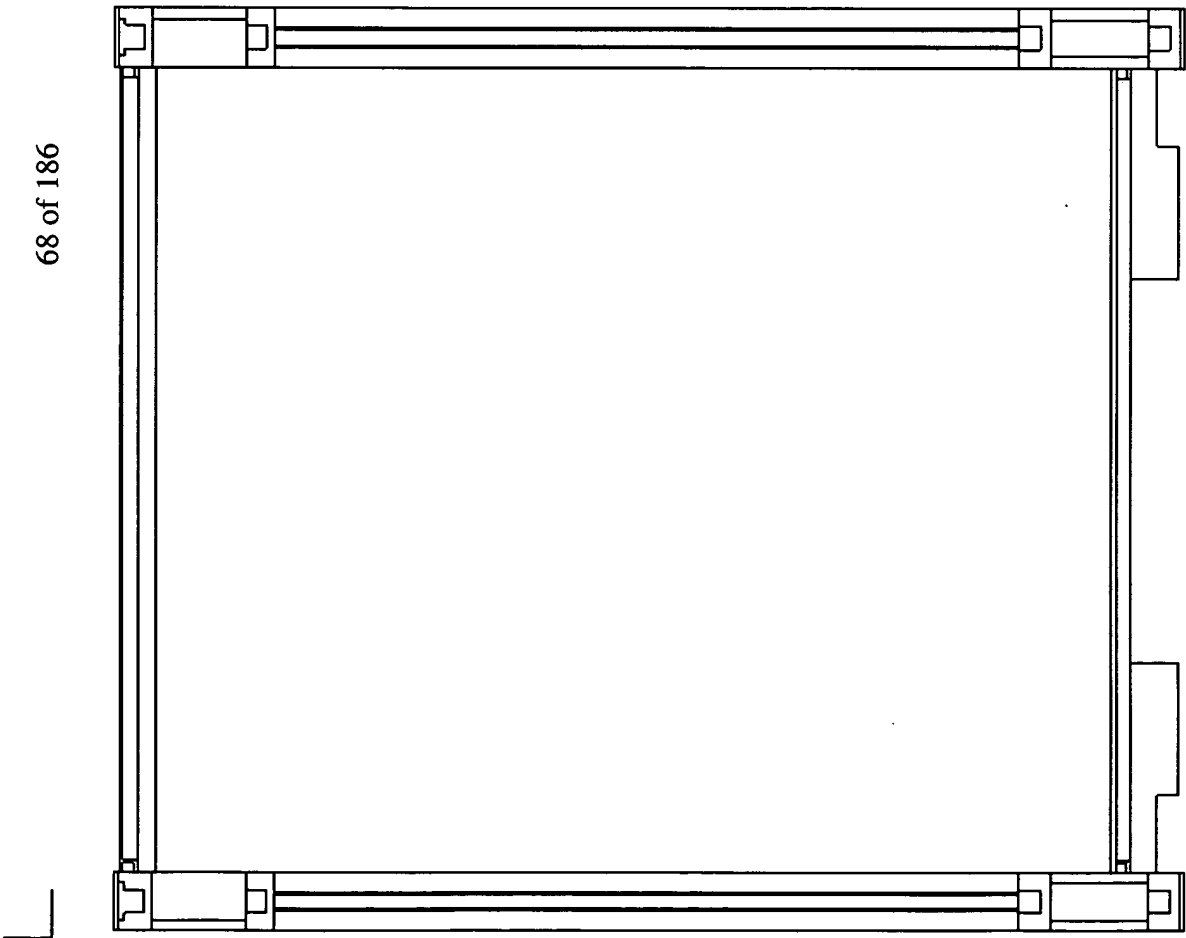


FIG. 28B: External view of a left frame.

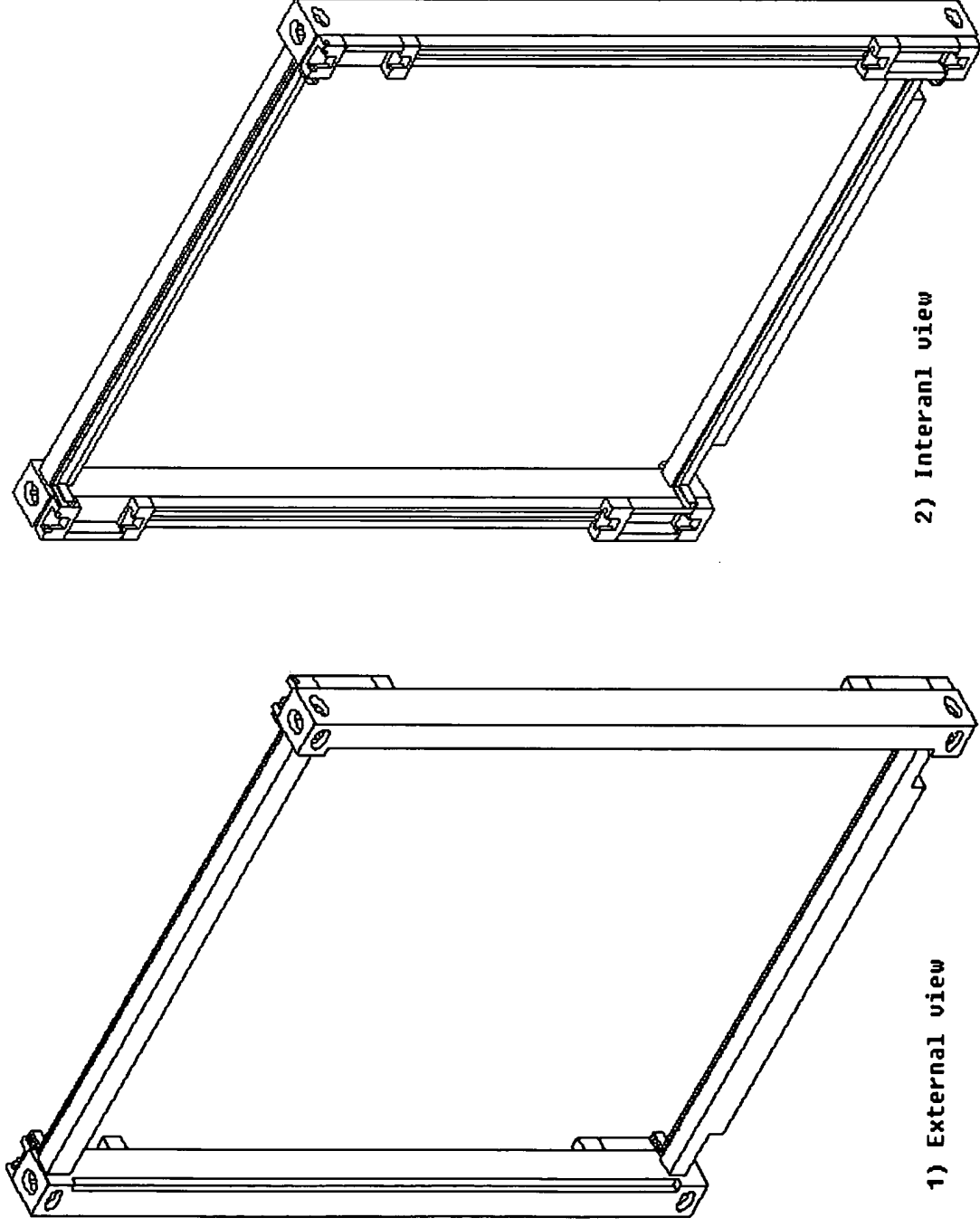


FIG. 29B: Isometric views of a right frame.

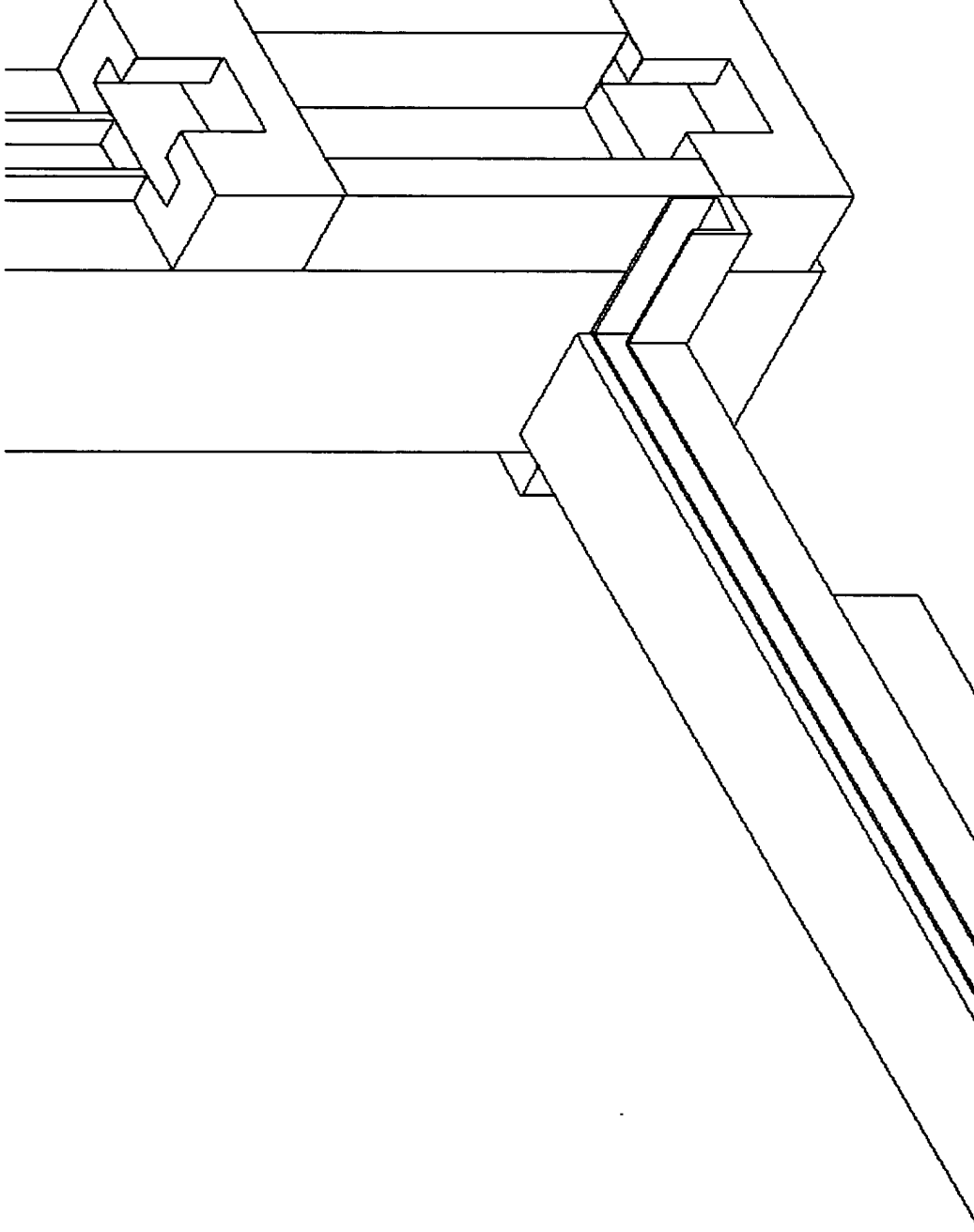


FIG. 30B: Isometric internal view of the corner of a right frame.

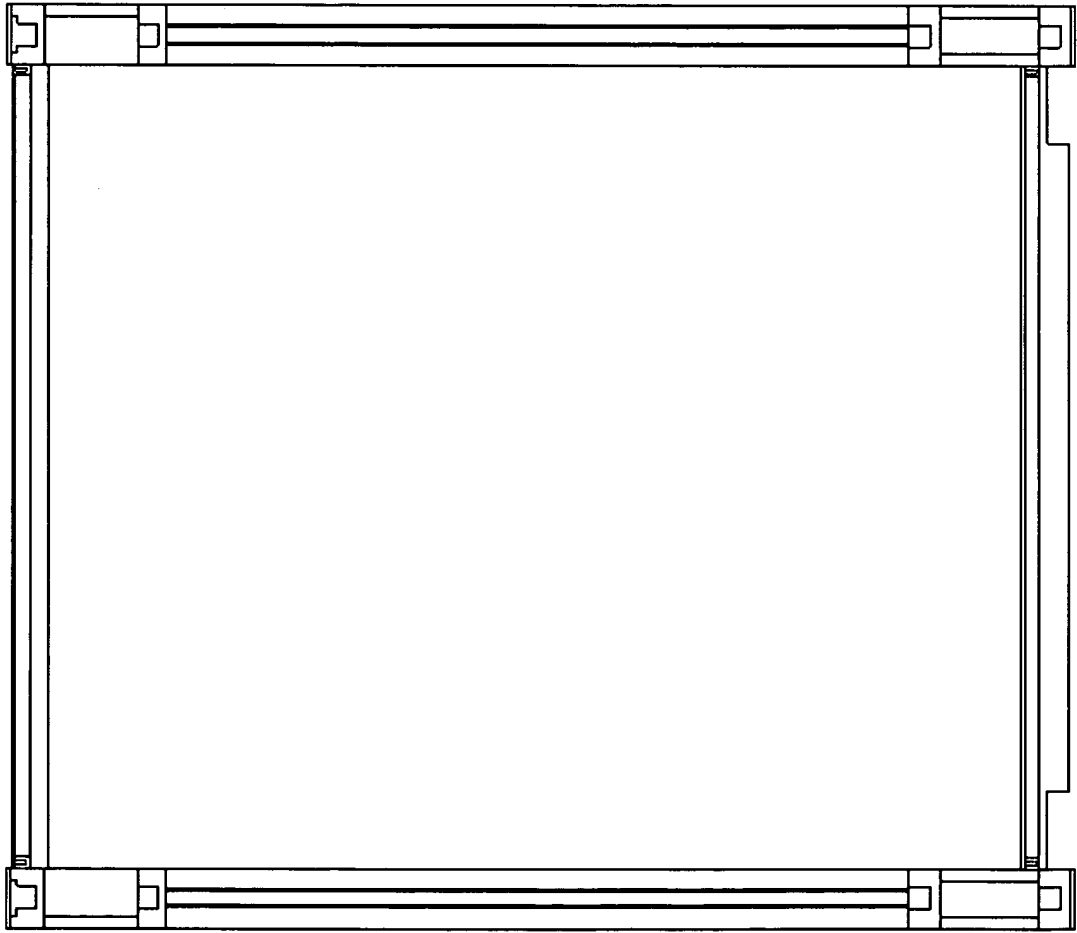


FIG. 31B: Internal view of a right frame.

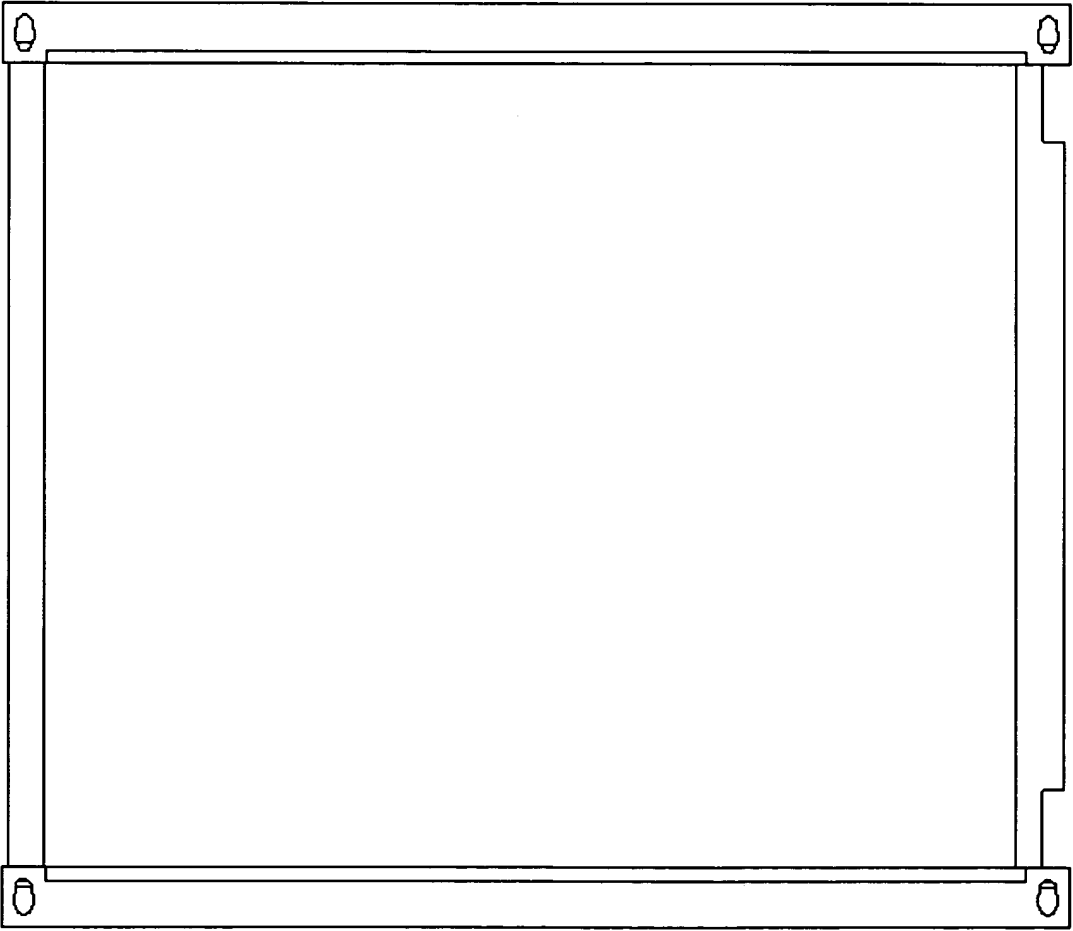


FIG. 32B: External view of a right frame.

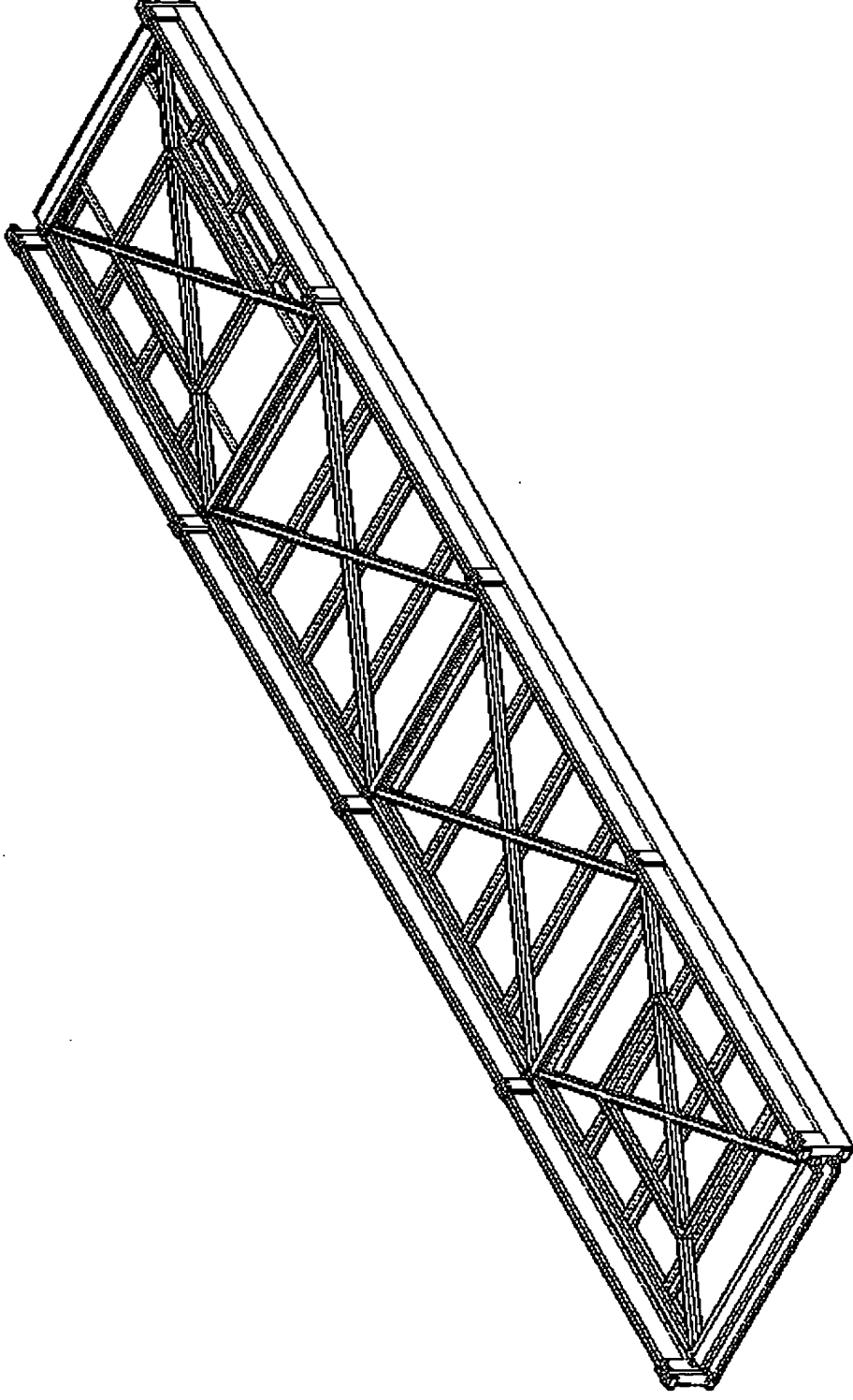


FIG. 35B: Isometric view of a floor frame that contains a front frame and a back frame.

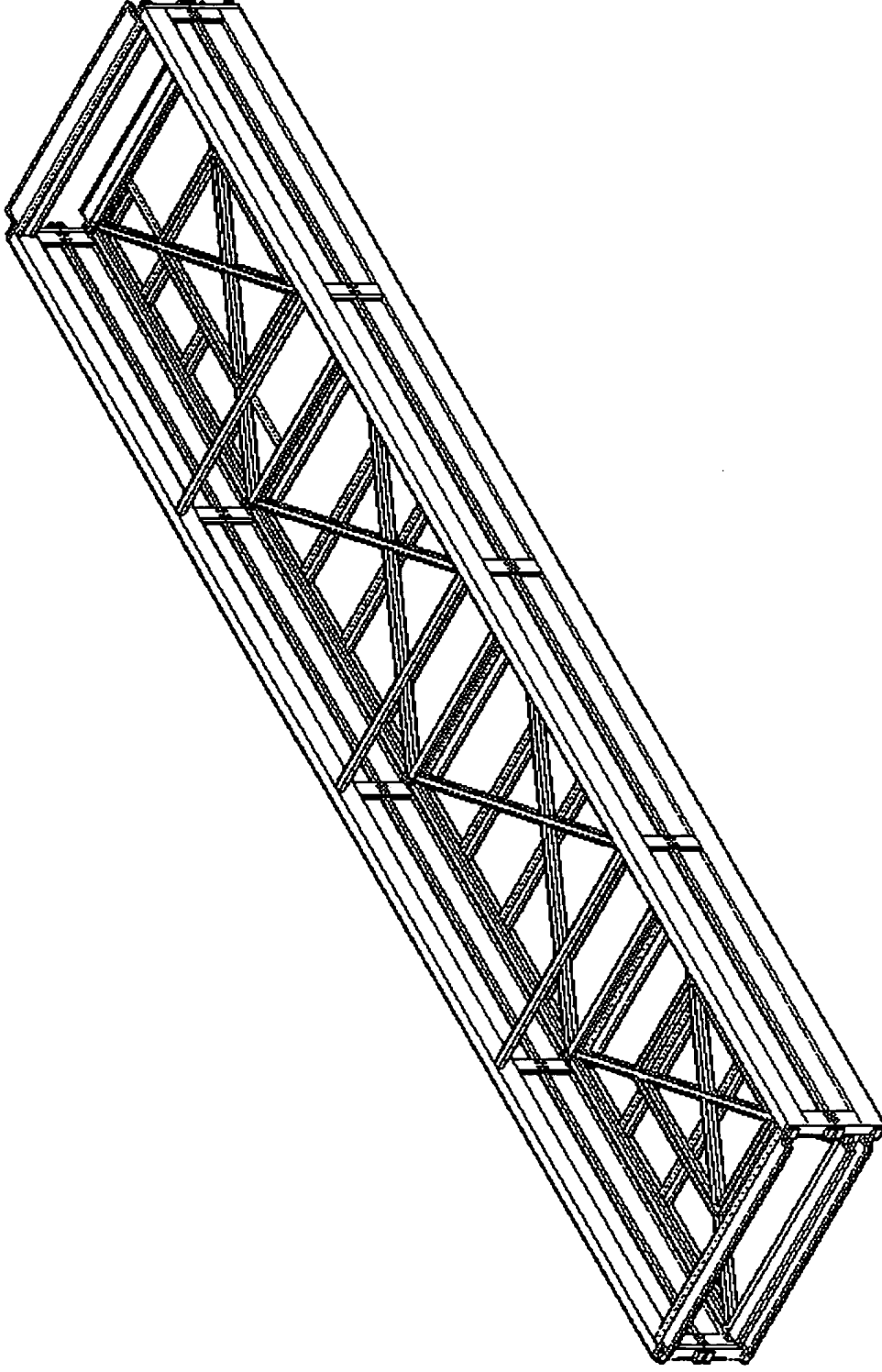


FIG. 36B: Isometric view of a ceiling frame stacked on top of a floor frame that contains a front frame and a back frame.

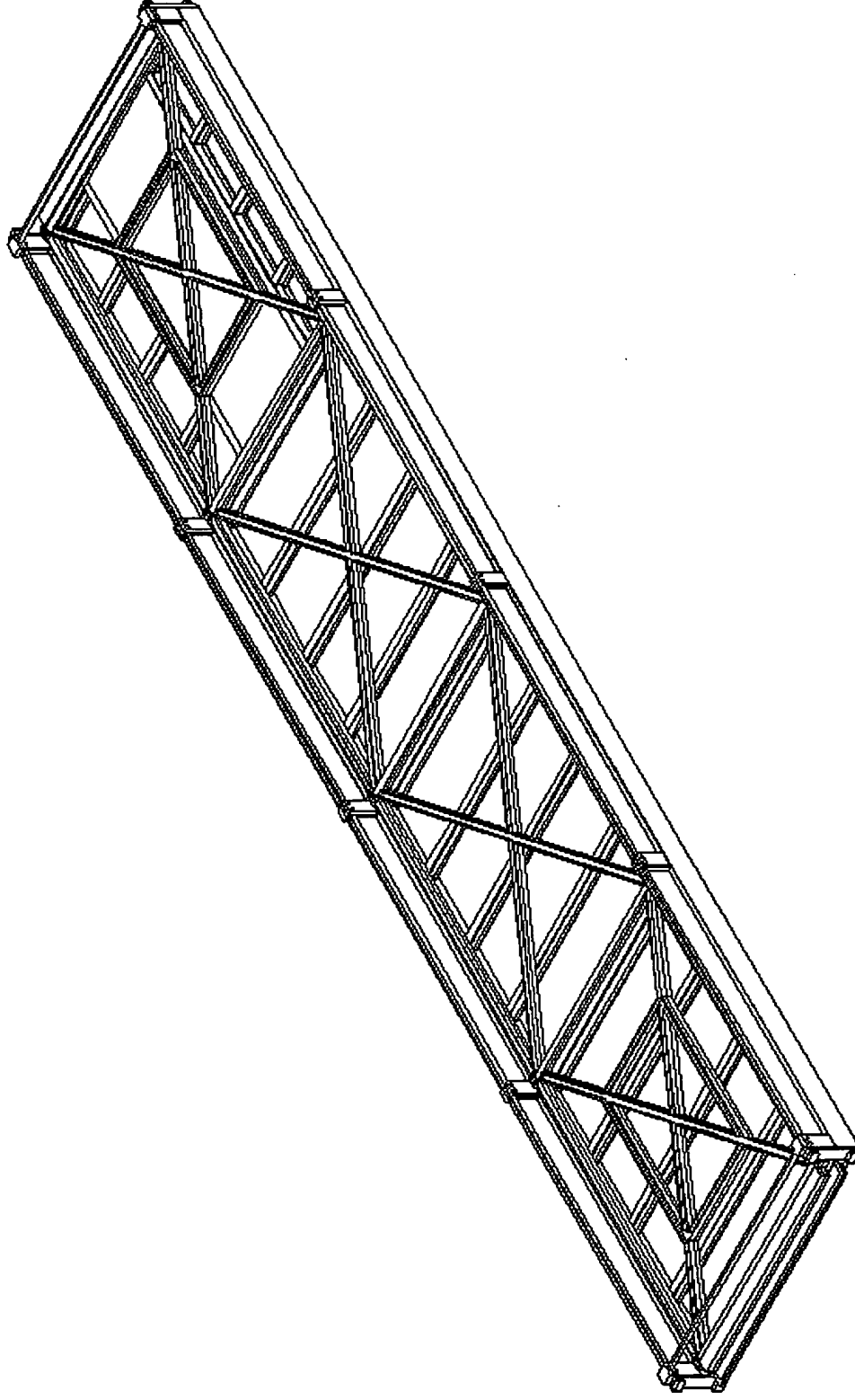


FIG. 39B: Step 1 of disassemble and load process.

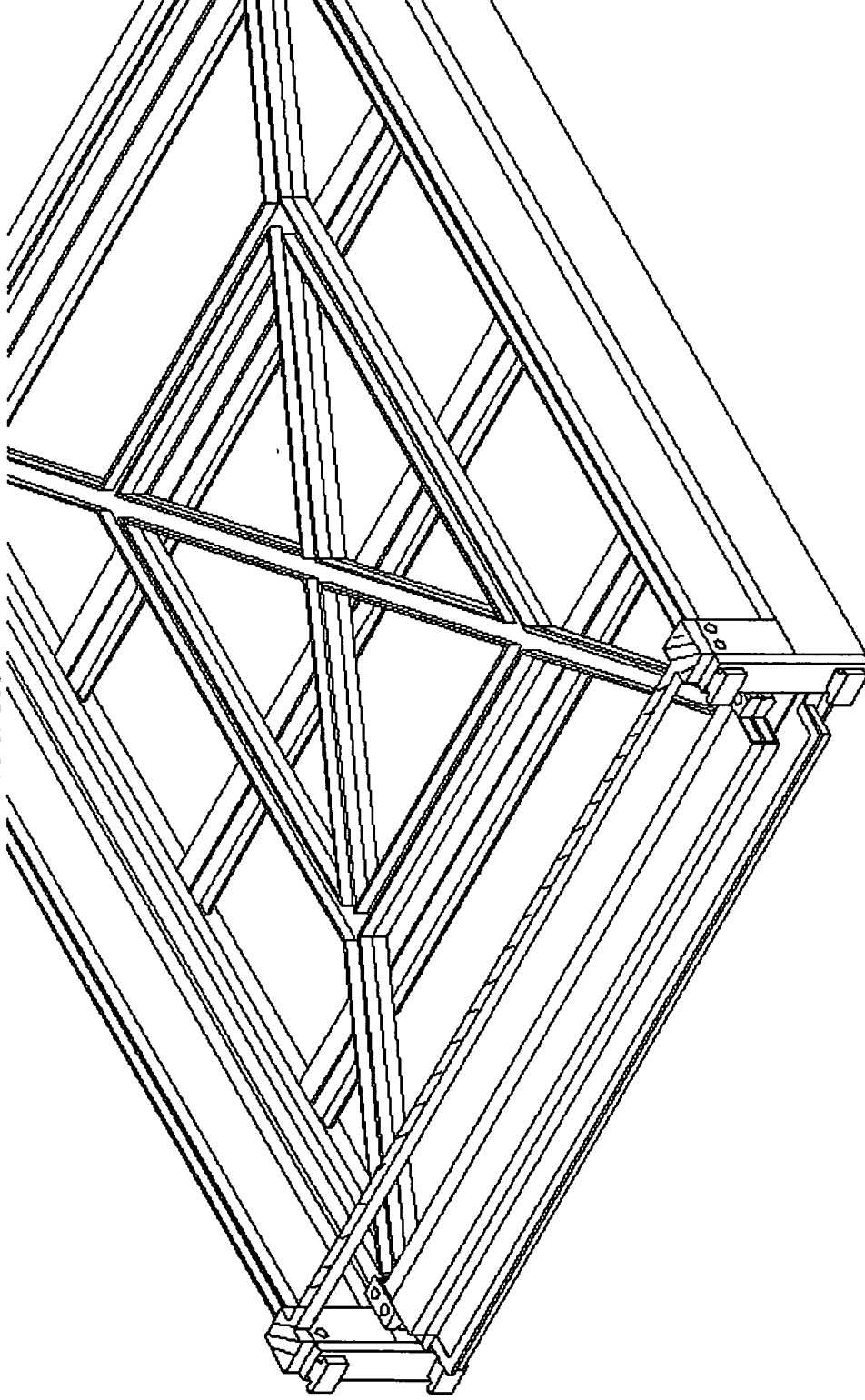


FIG. 40B: Enlarged view based on FIG. 39B to show the base part position indicated by shaded lines

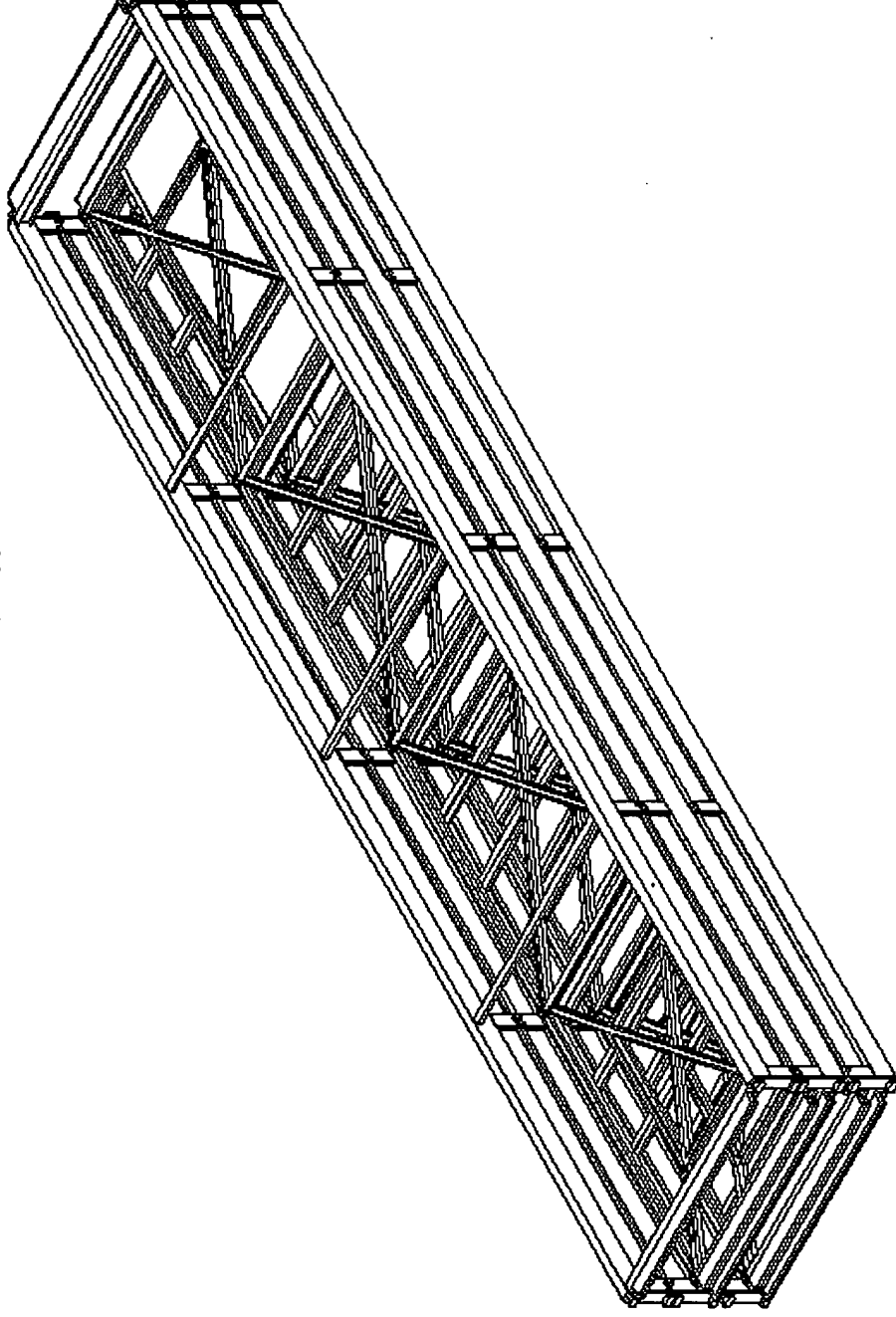


FIG. 41B: Step2 of disassemble and load process.

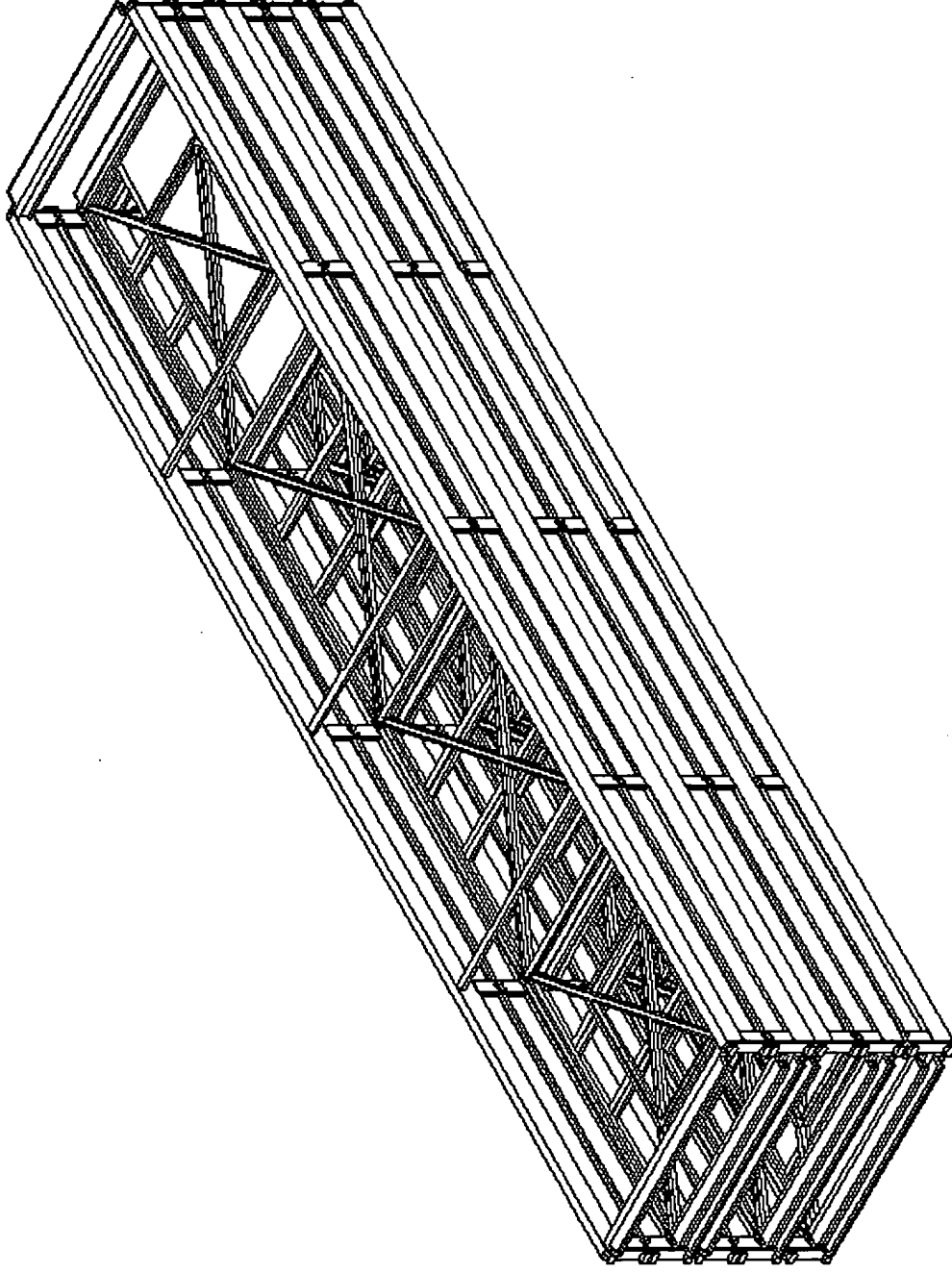


FIG. 42B: Step3 of disassemble and load process.

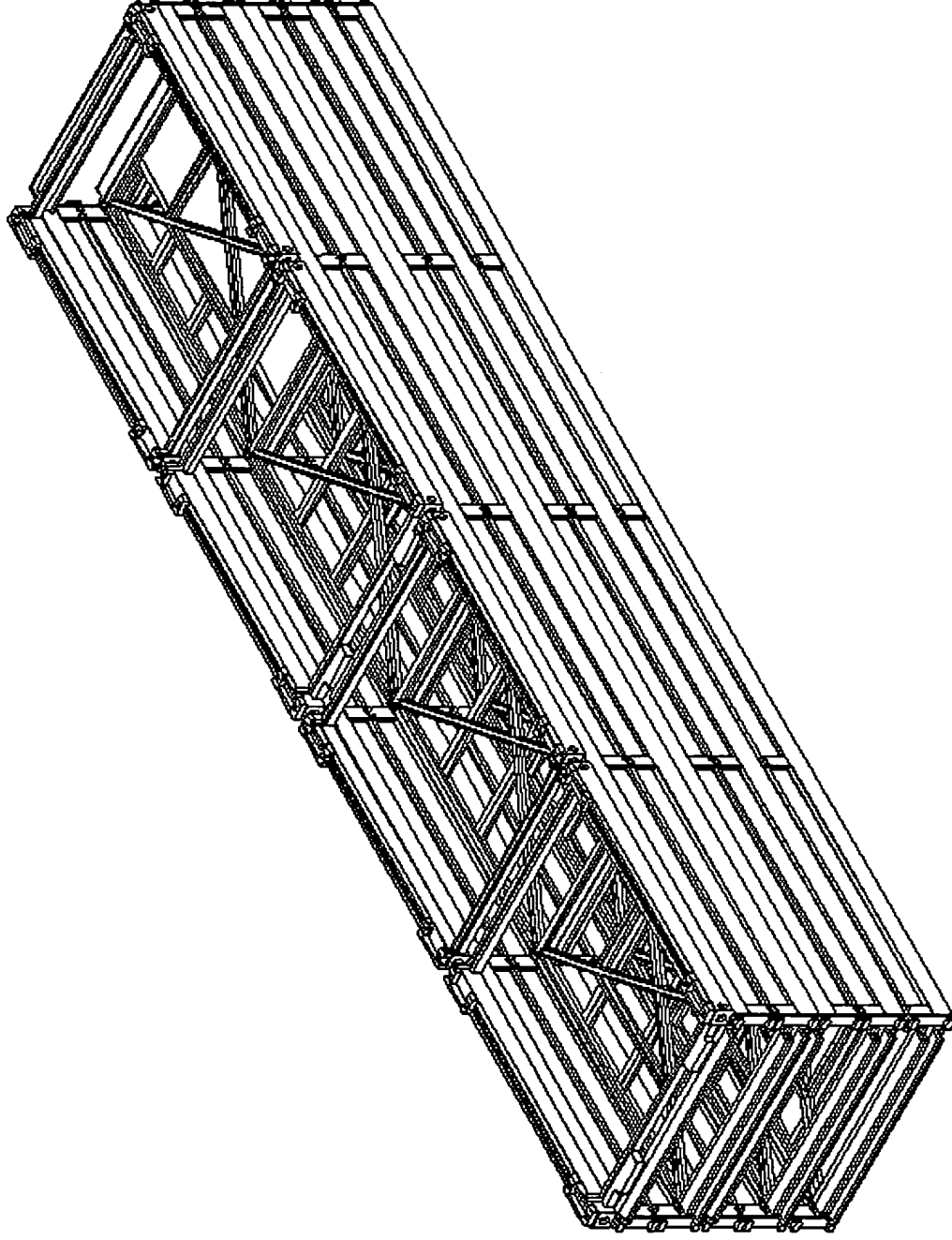


FIG. 43B: Step4 of disassemble and load process.

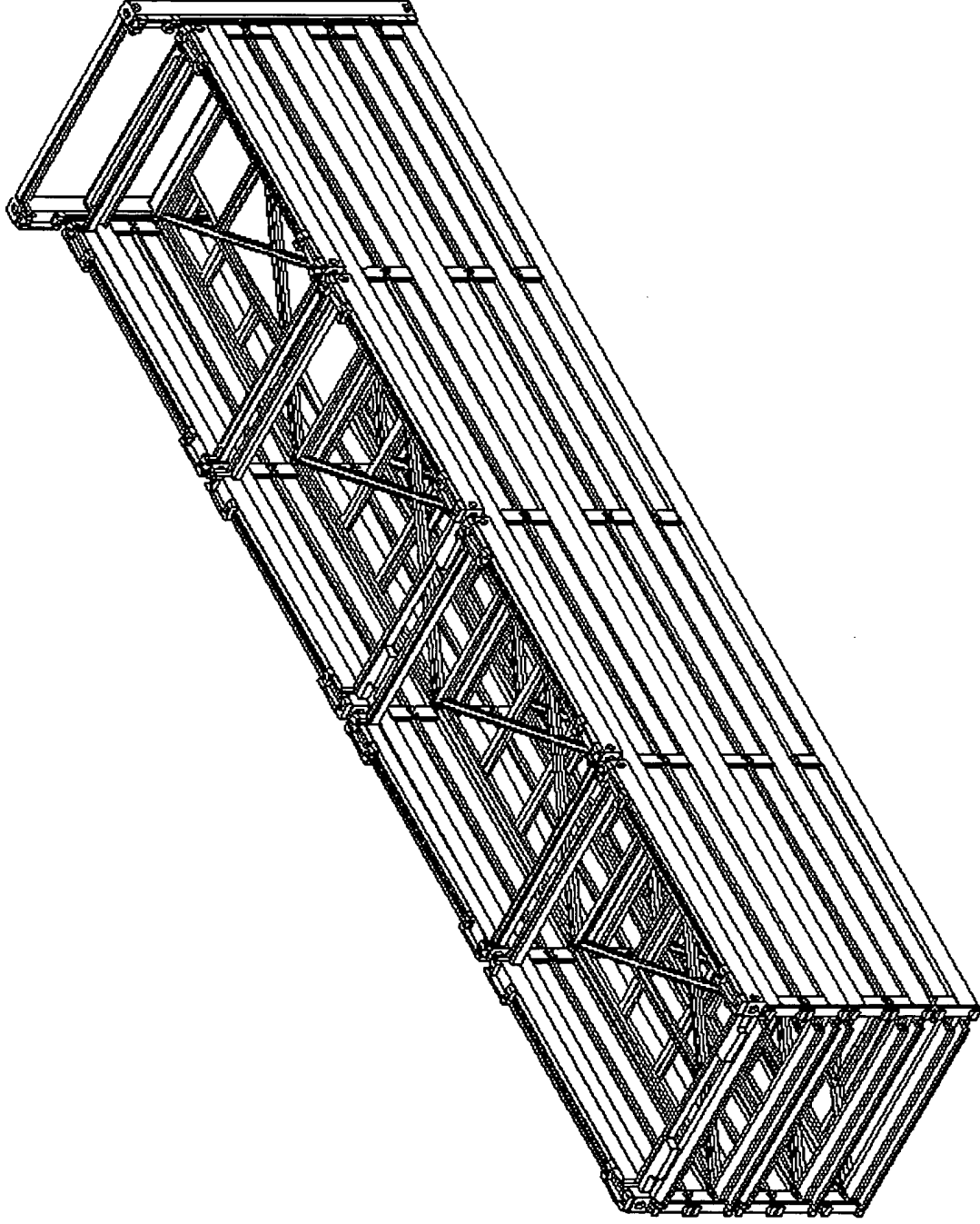


FIG. 44B: Step5 of disassemble and load process.

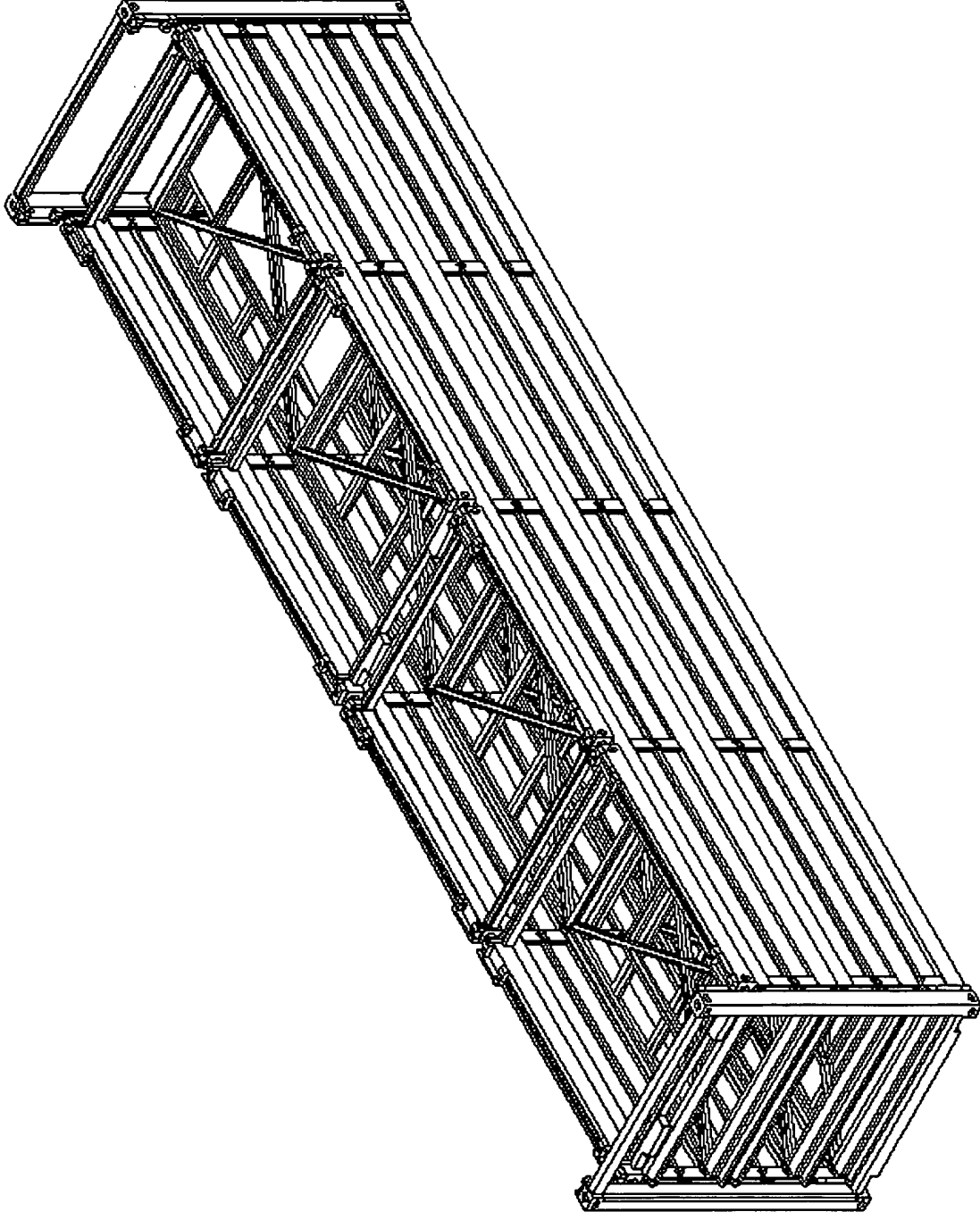


FIG. 45B: Step6 of disassemble and load process.

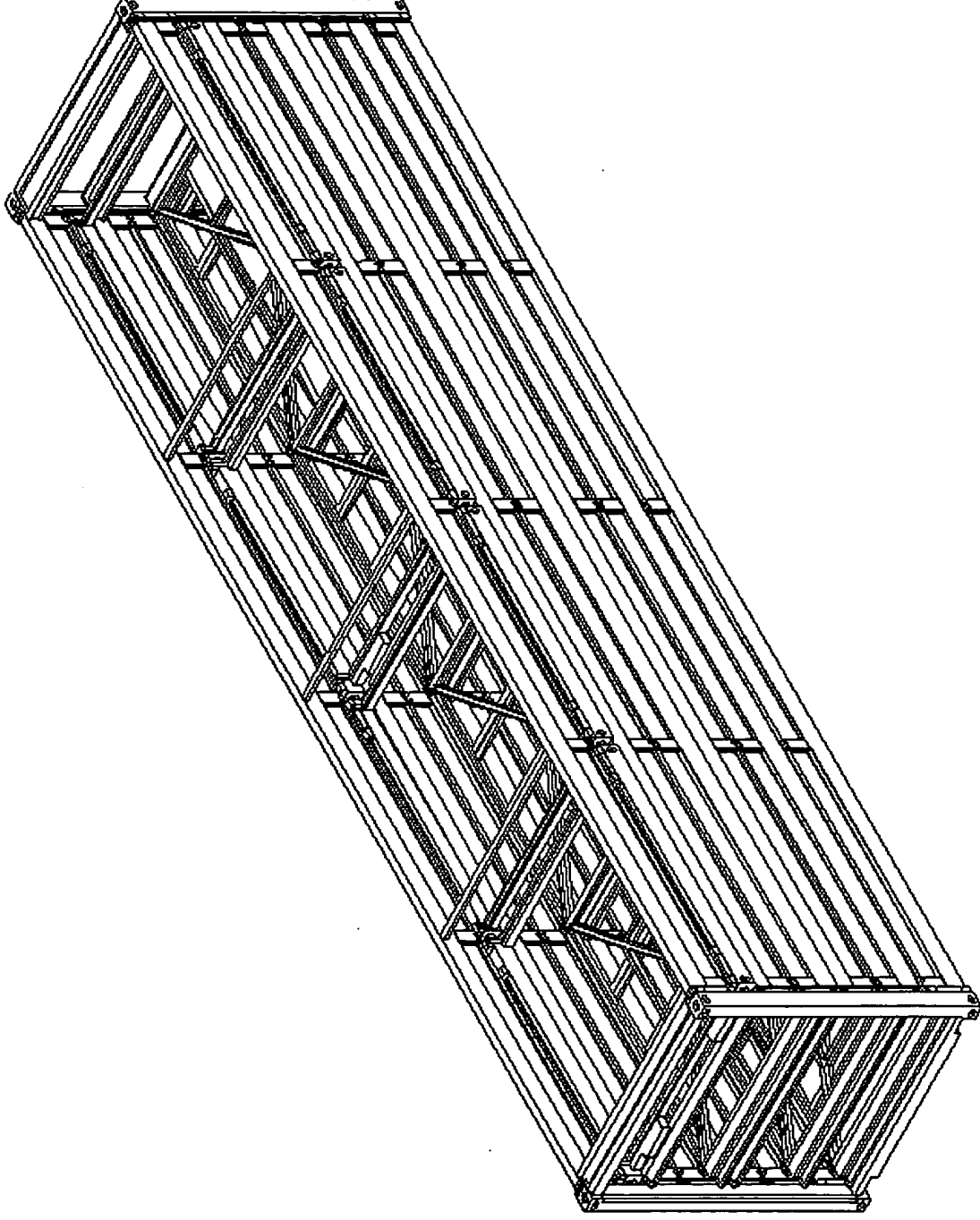


FIG. 46B: Step7 of disassemble and load process.

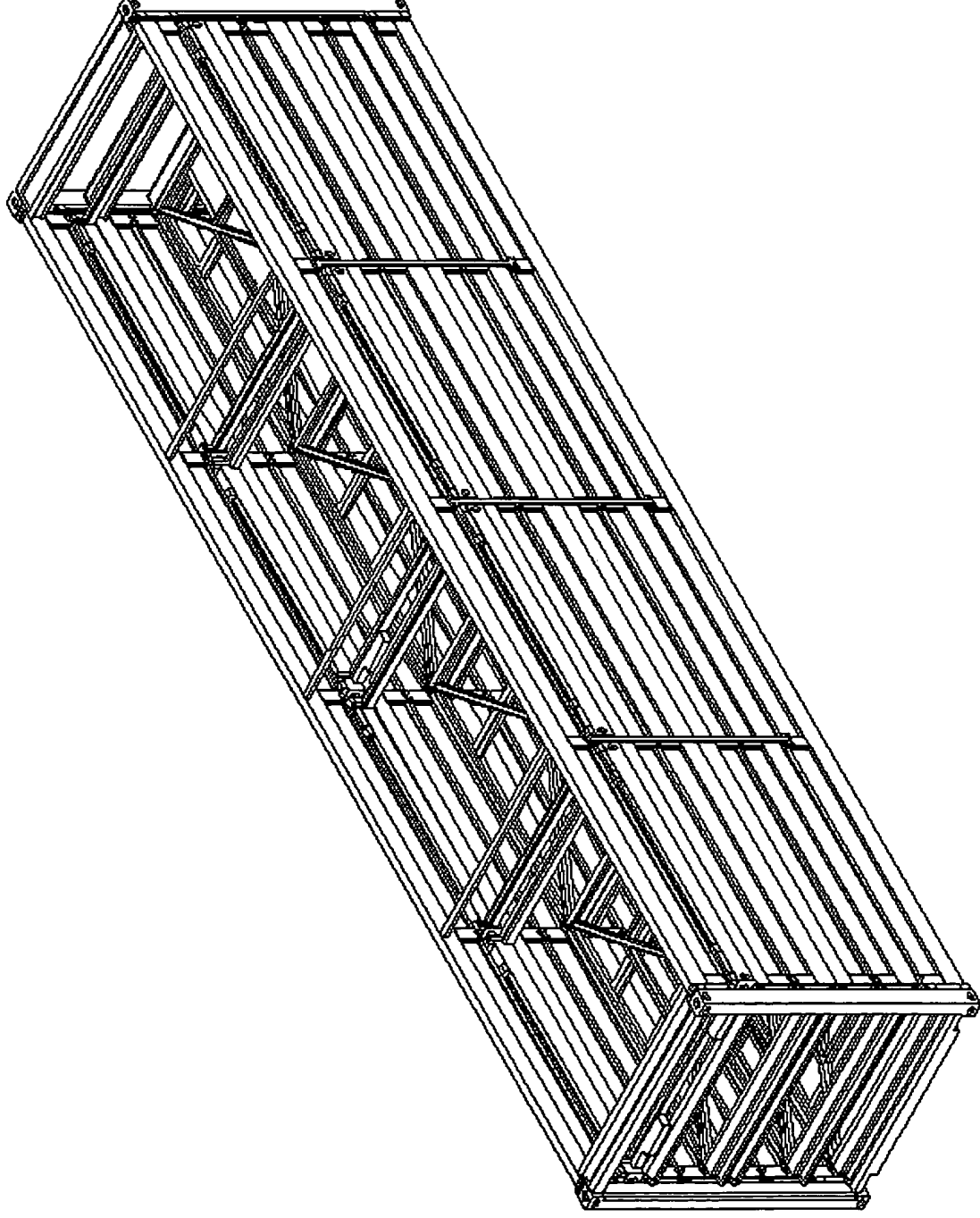


FIG. 47B: Step8 of disassemble and load process.

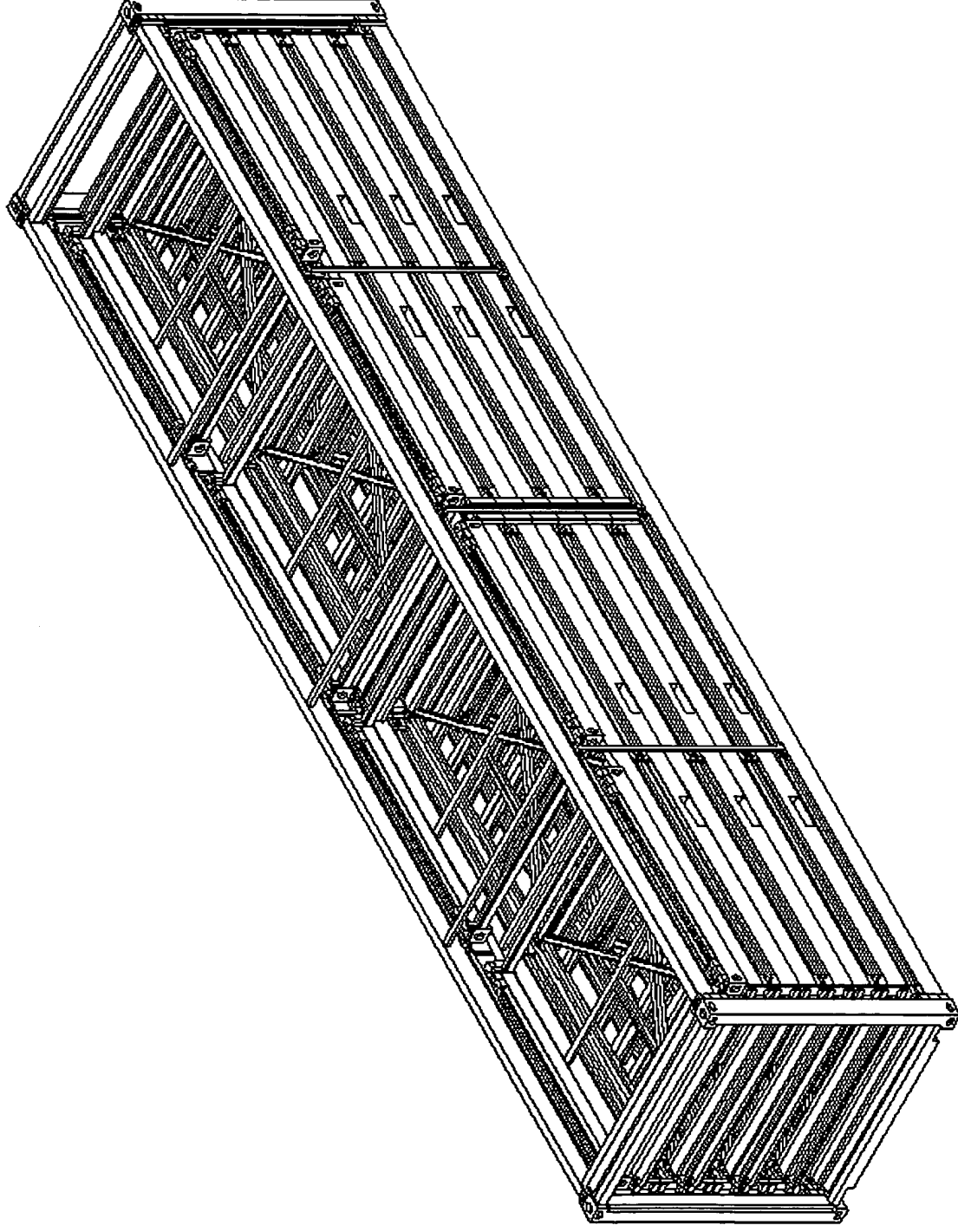


FIG. 1C: Basic isometric view of the 40 foot container loaded with six collapsed 20 foot container frame panels.

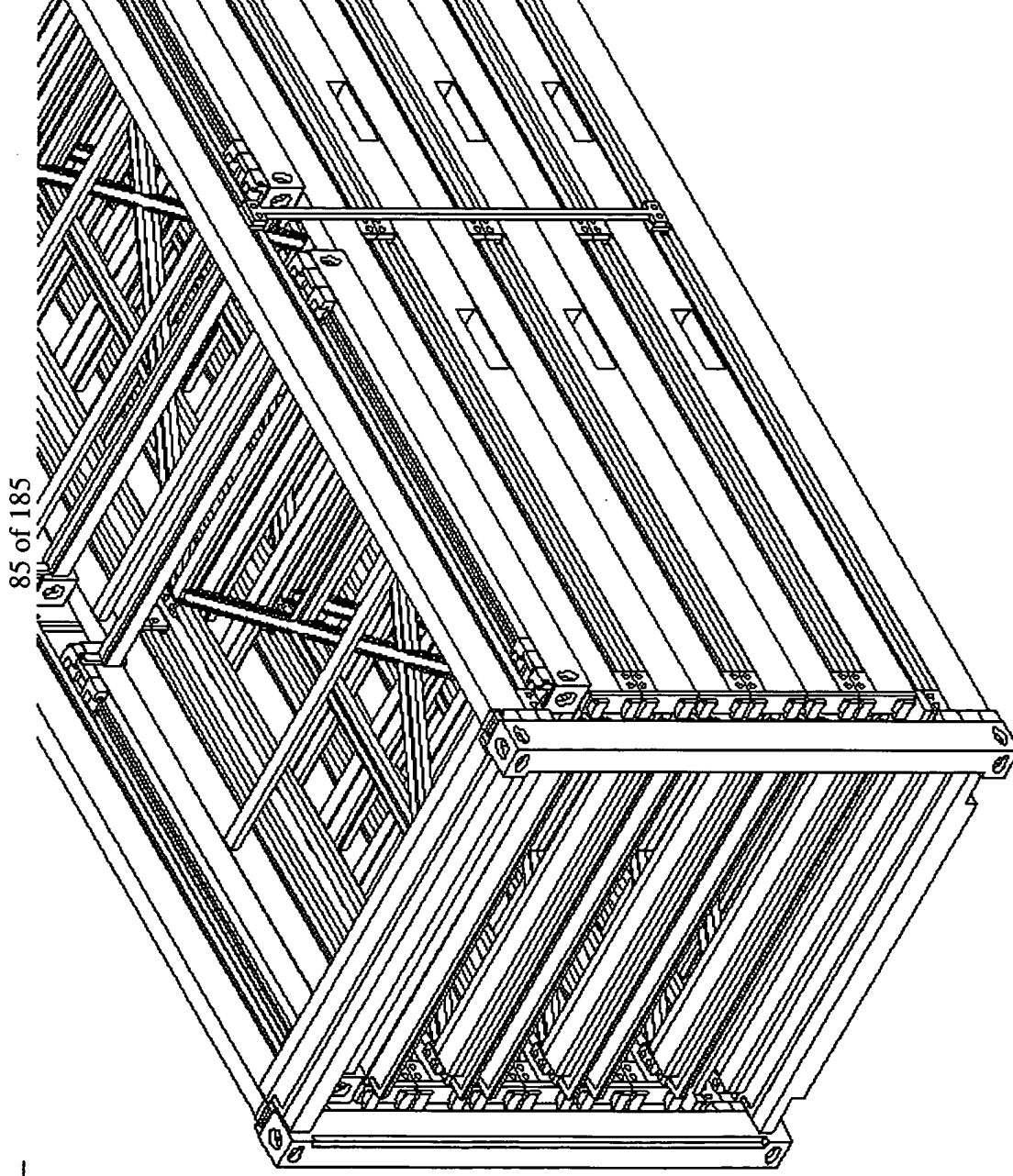


FIG. 2C: Detailed isometric view of the 40 foot container loaded with six collapsed 20 foot container frame panels.

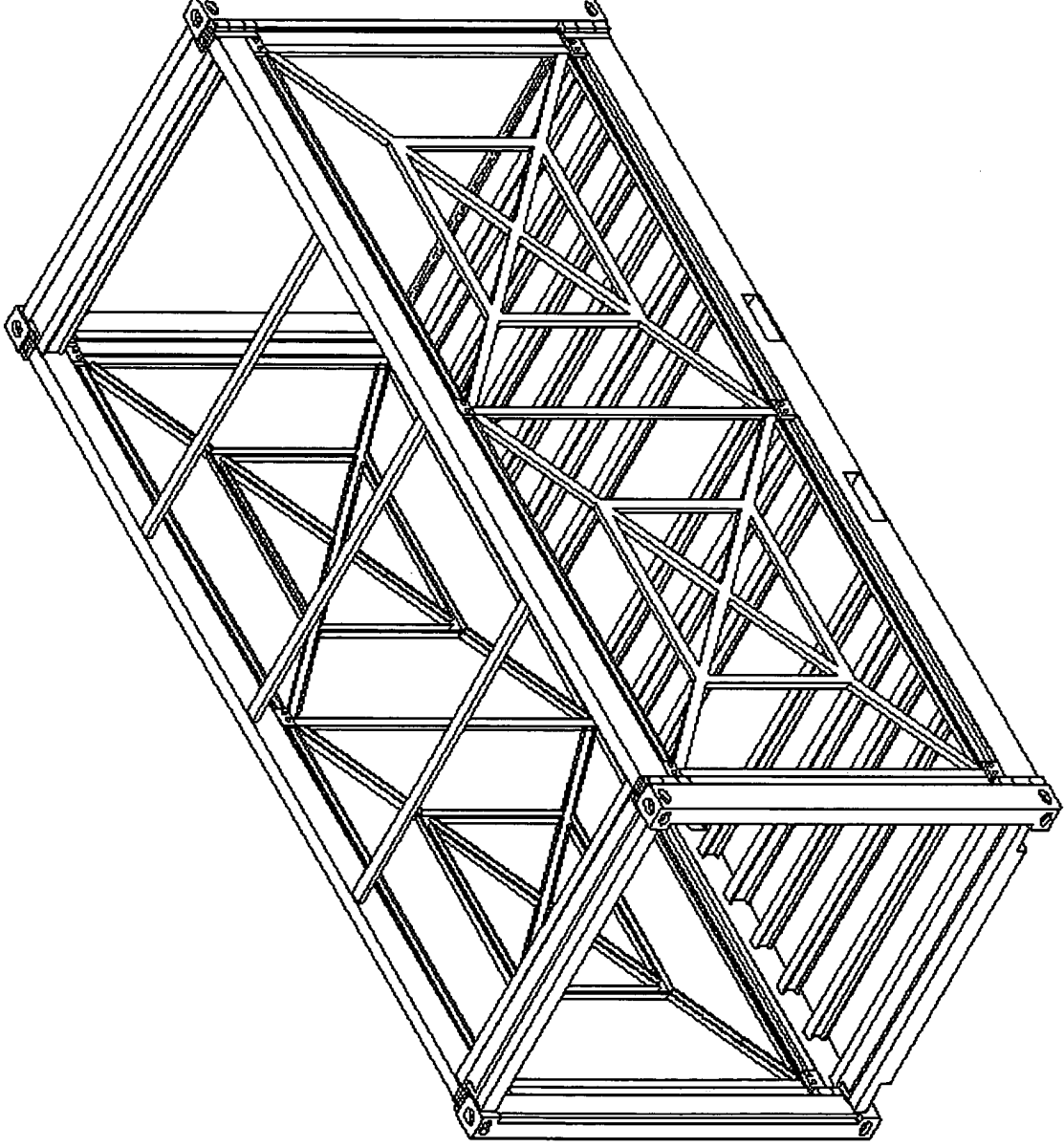


FIG. 3C: Basic isometric view of the 20 foot collapsible cargo container frame.

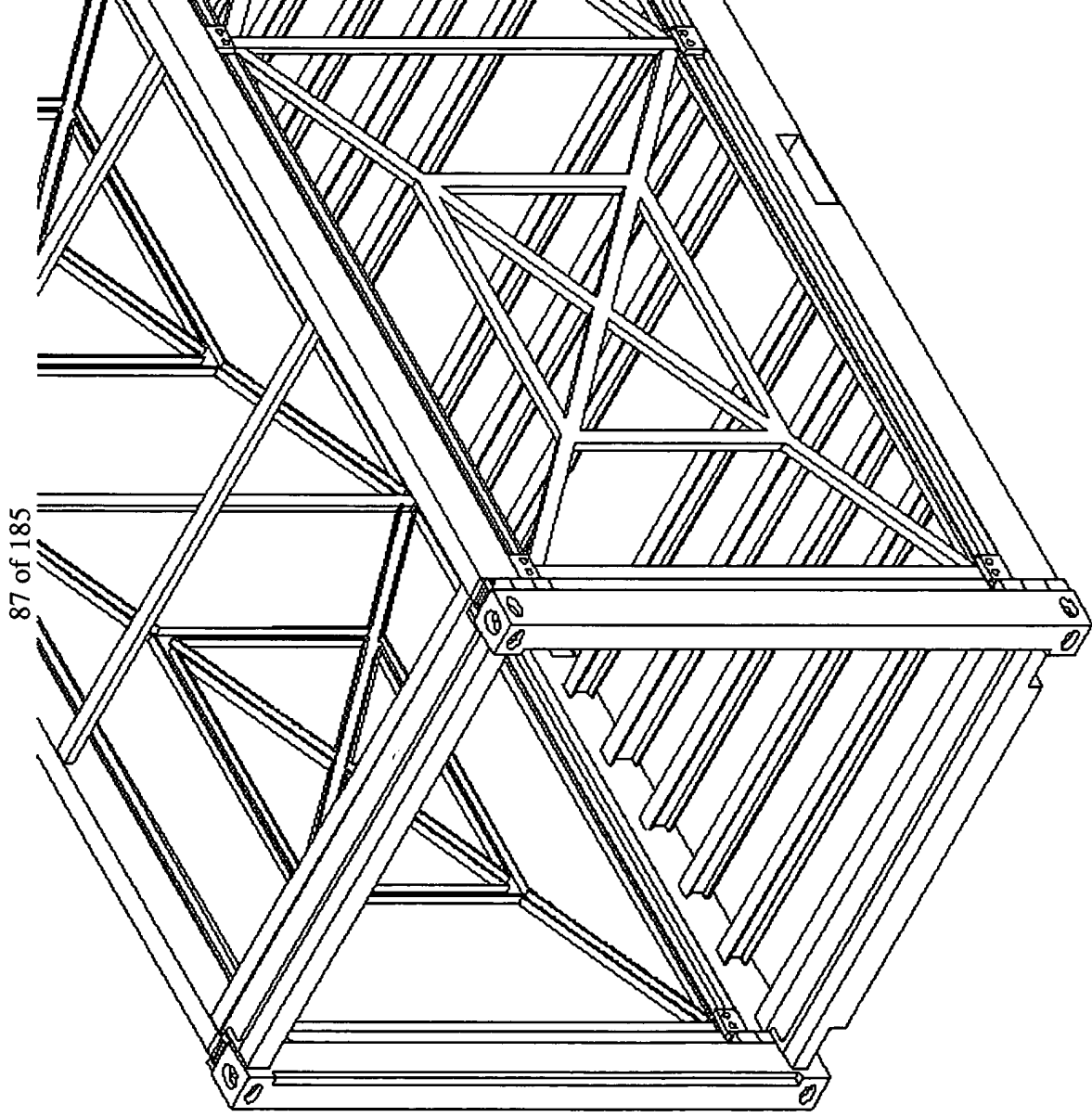


FIG. 4C: Enlarged isometric view of the right end of a 20 foot collapsible cargo container.

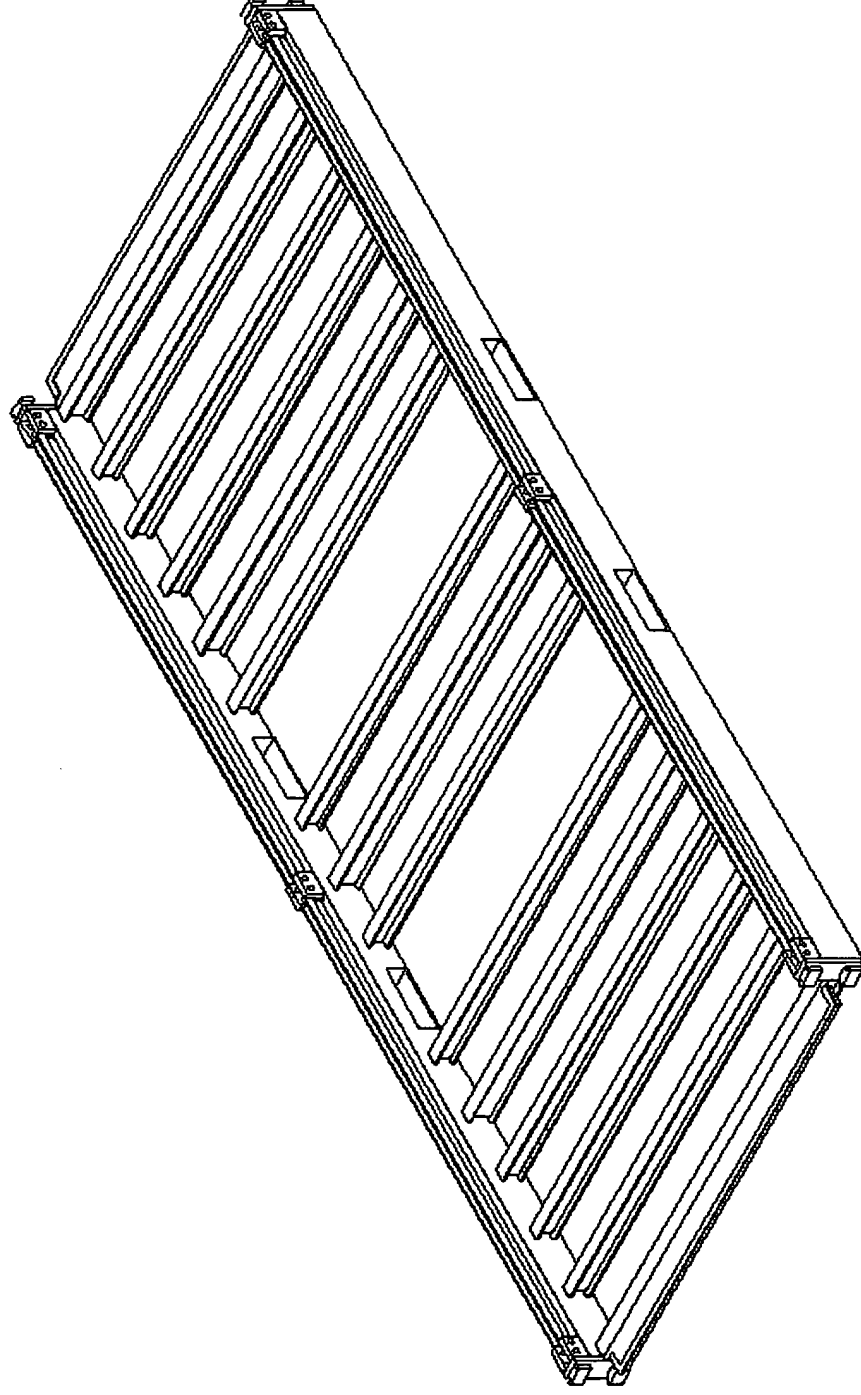


FIG. 6C: Basic isometric view of the floor frame.

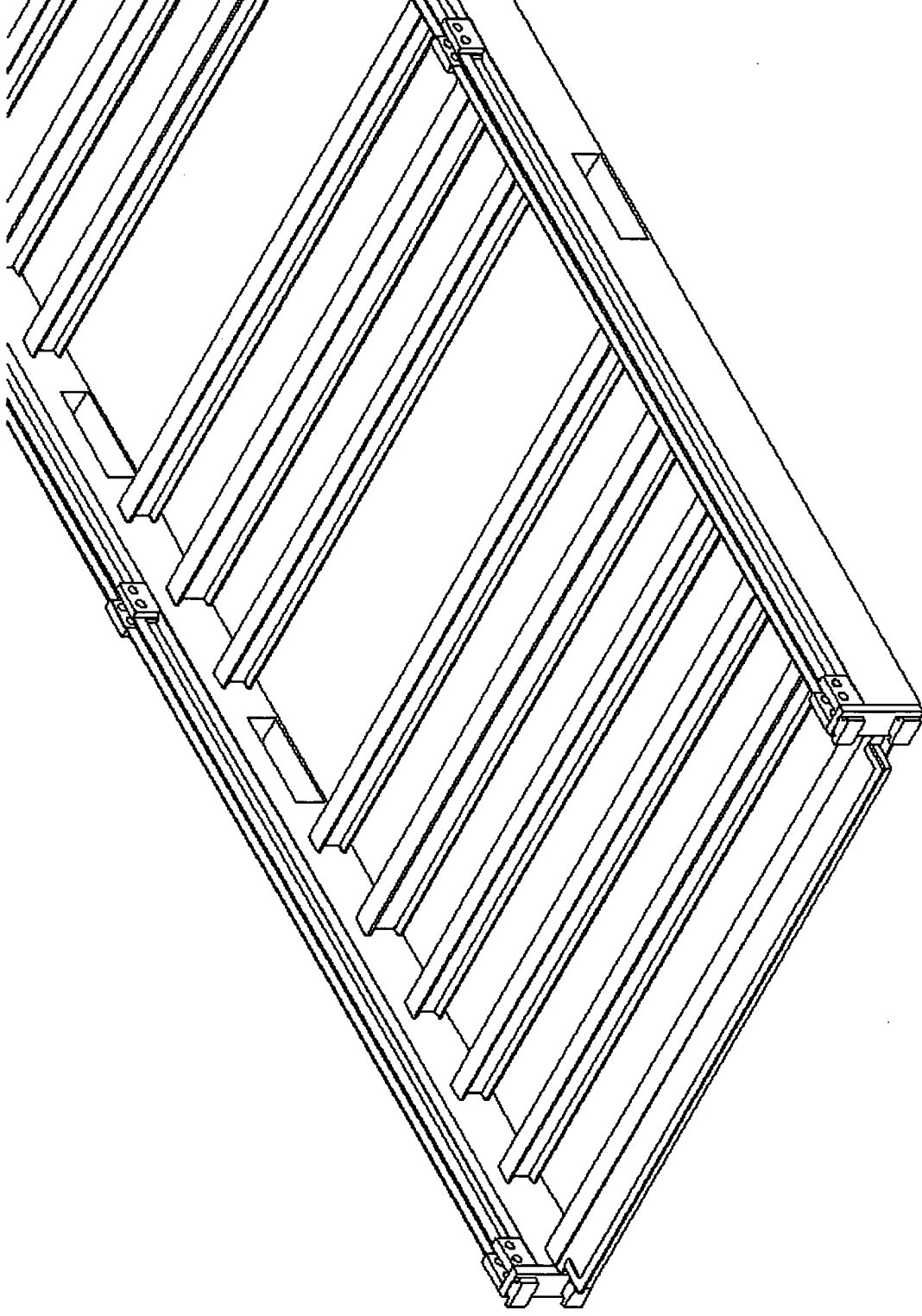


FIG. 12C: Isometric view of the right end of a floor frame.

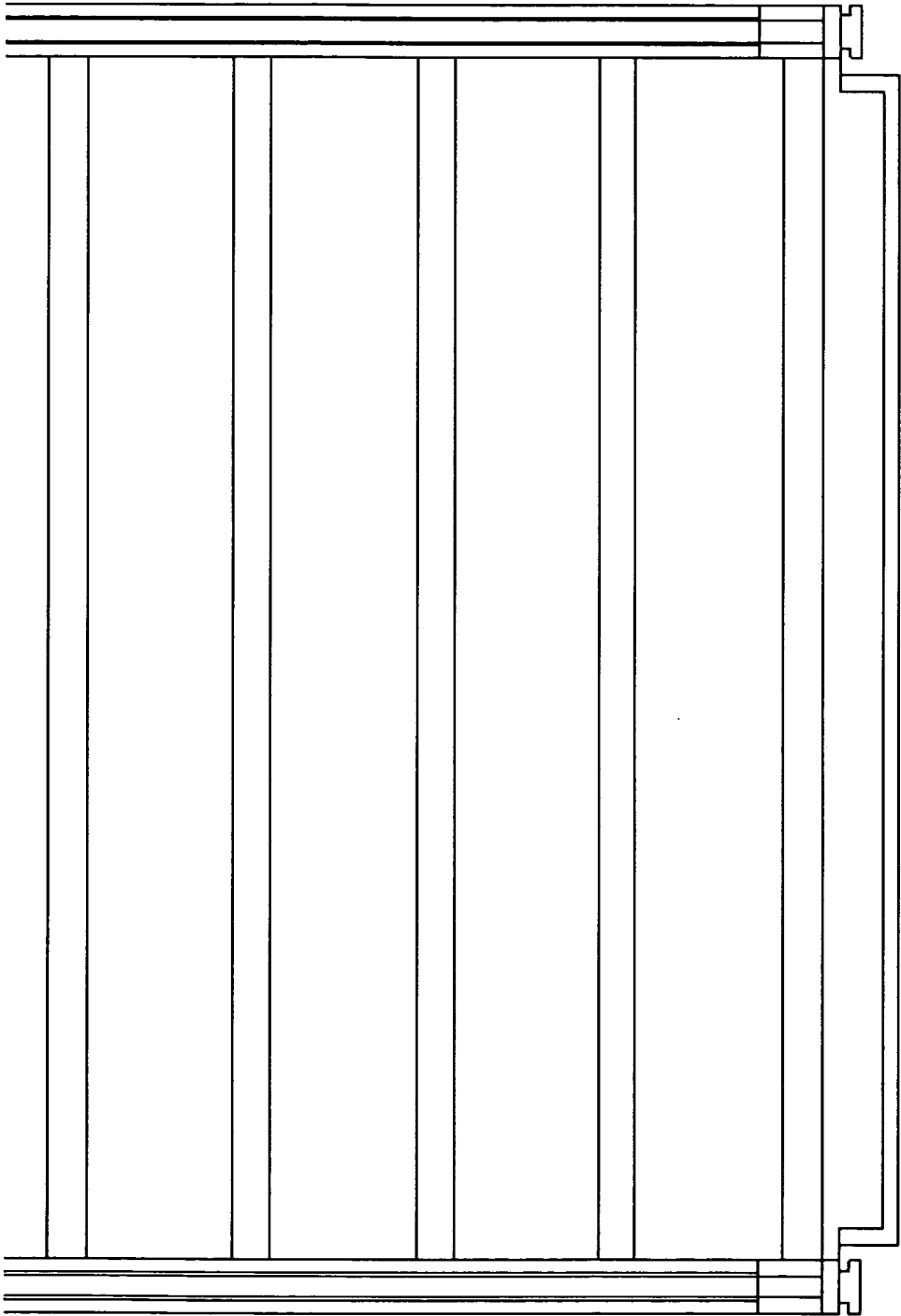


FIG. 13C: Top view of the right end of a floor frame.

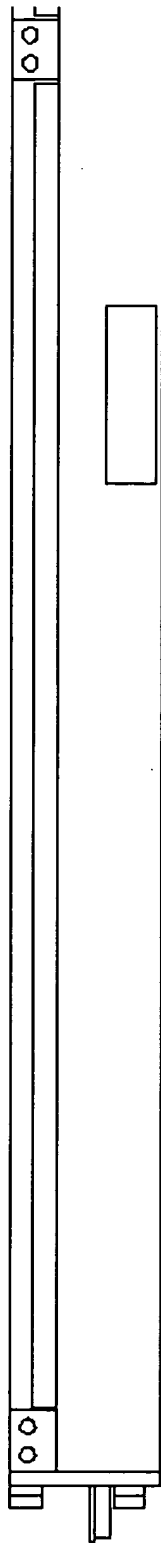


FIG. 14C: Front view of the right end of a floor frame.

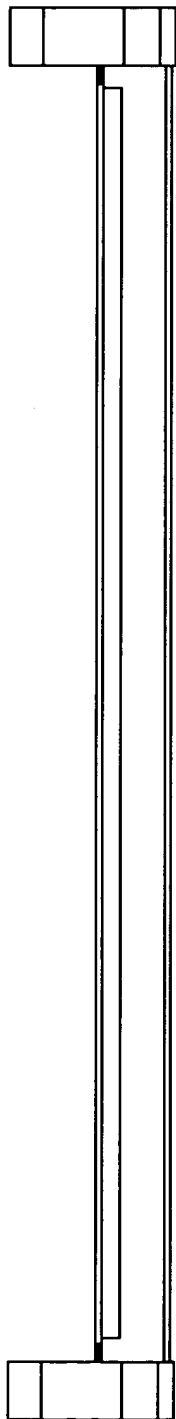


FIG. 15C: Right view of a floor frame.

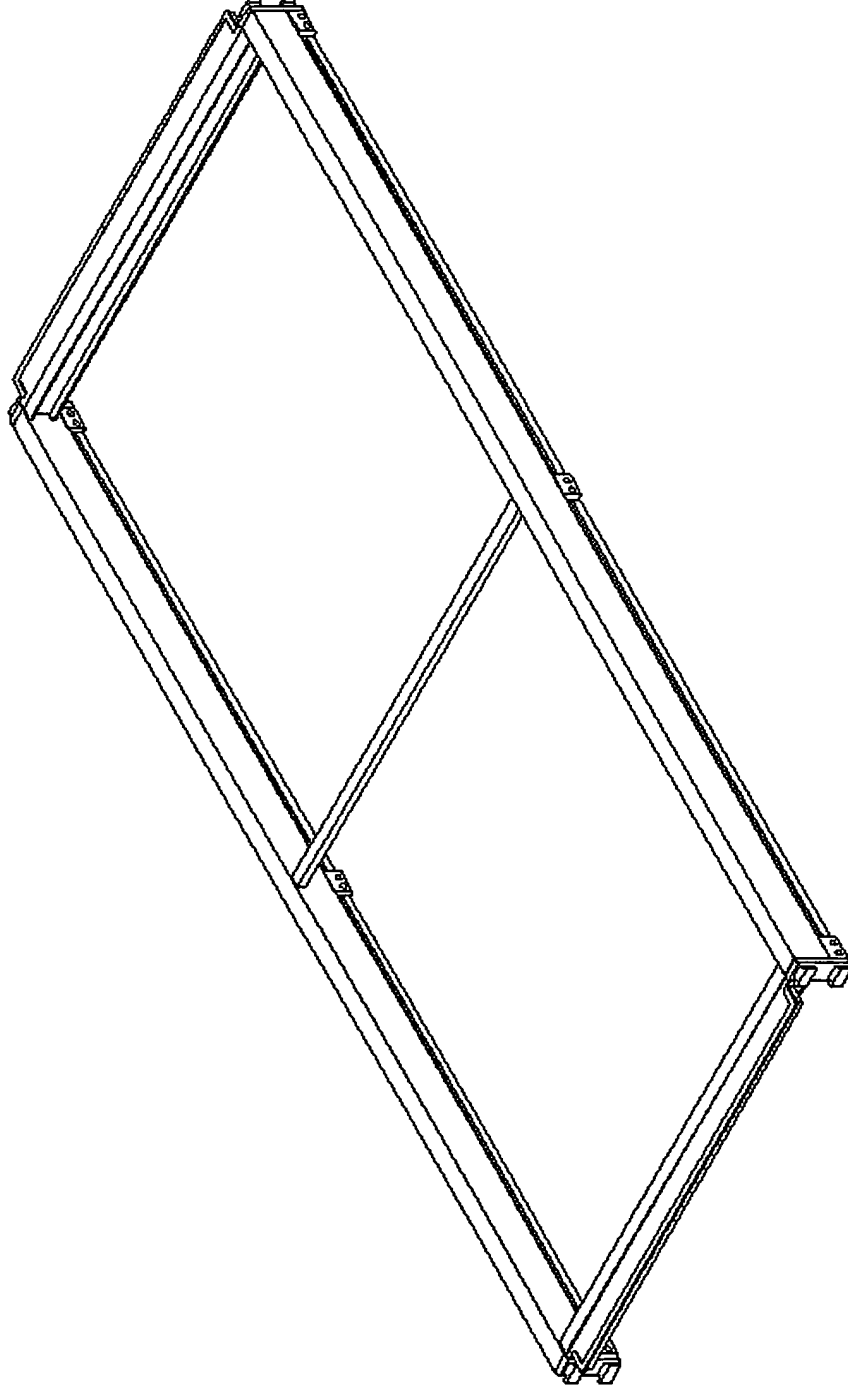


FIG. 16C: Isometric view of a ceiling frame.

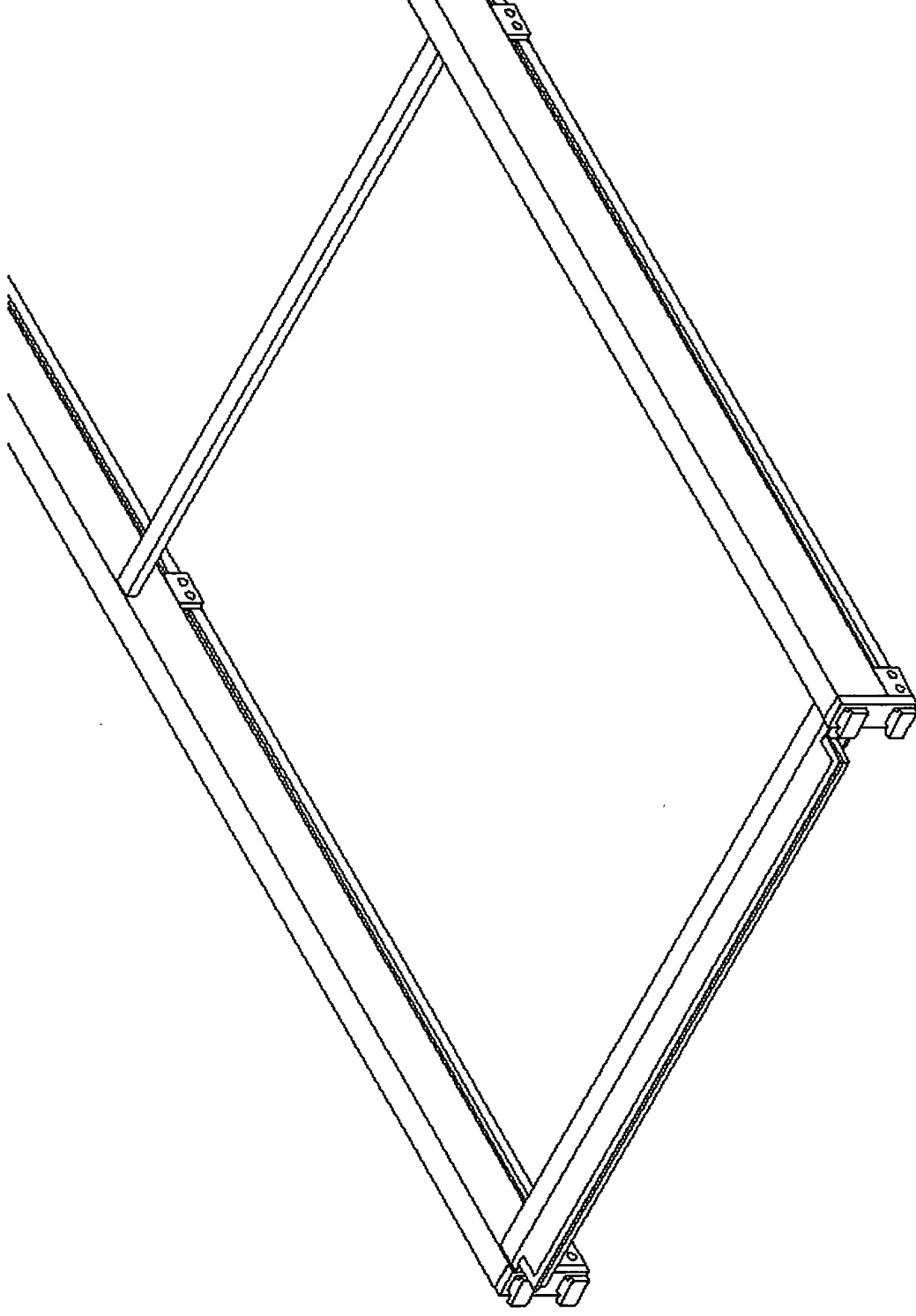


FIG. 21C: Isometric view of the right end of a ceiling frame.

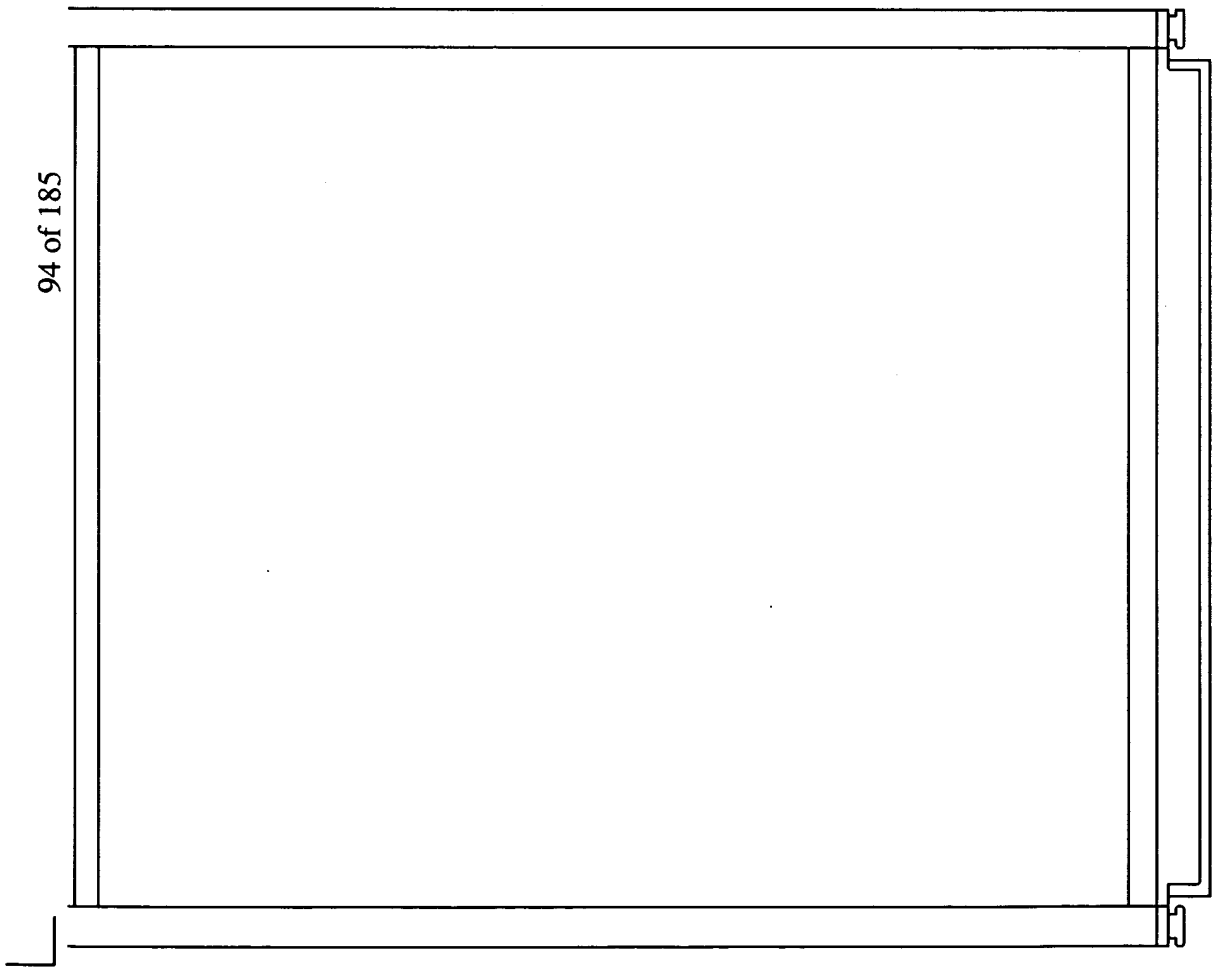


FIG. 22C: Top view of the right end of a ceiling frame.

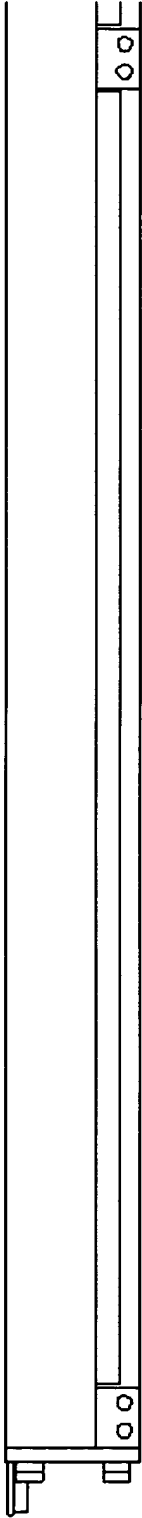


FIG. 23C: Front view of the right end of a ceiling frame.

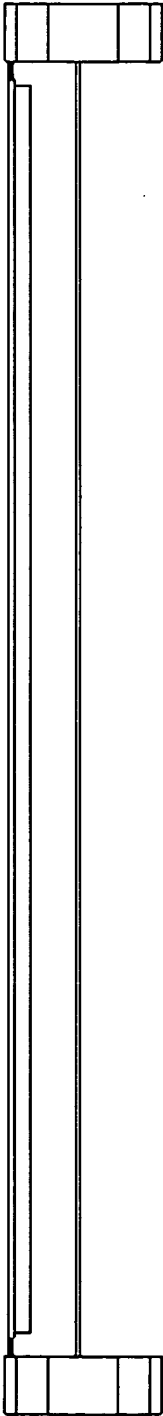


FIG. 24C: Right view of a ceiling frame.

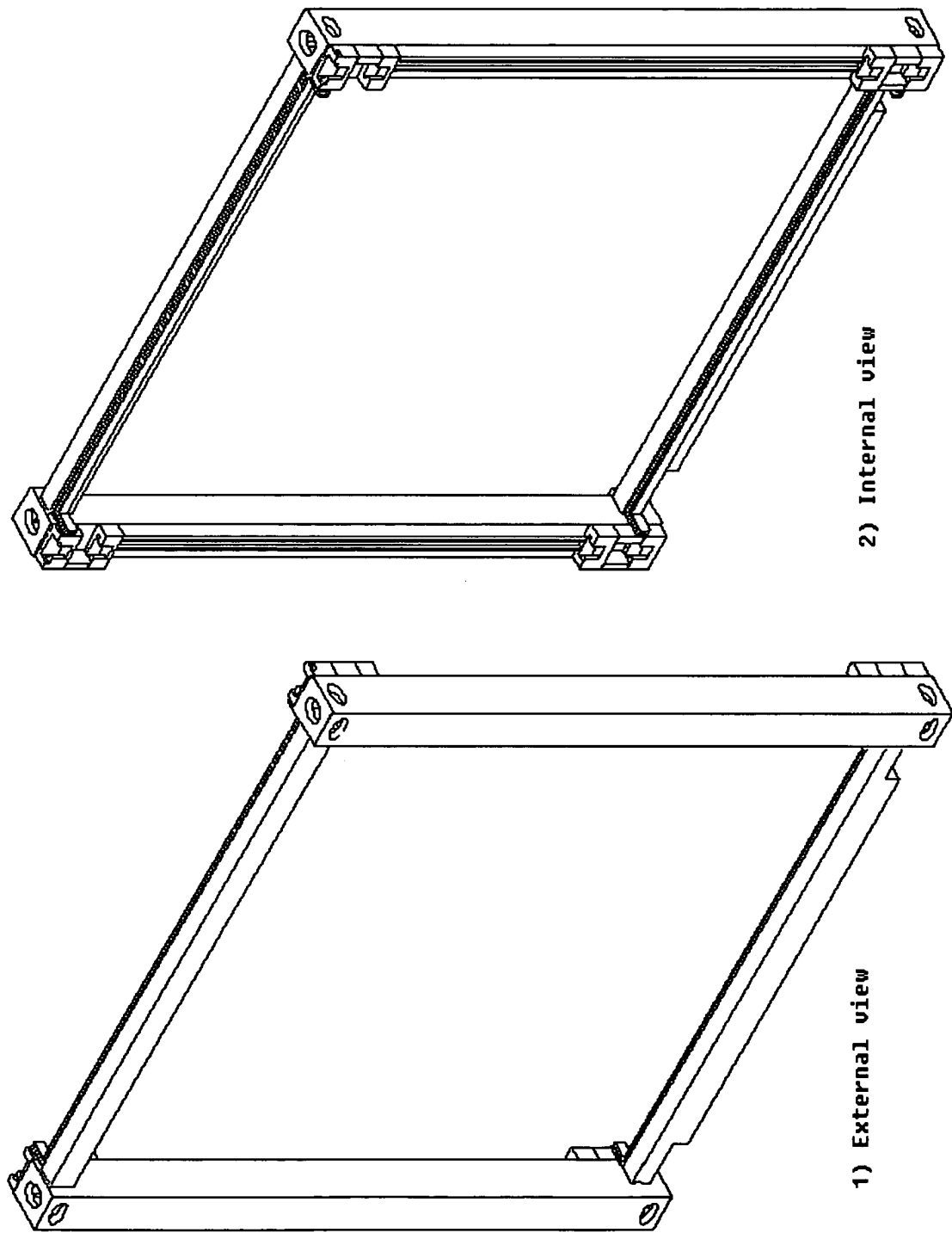


FIG. 25C: Isometric views of a left frame.

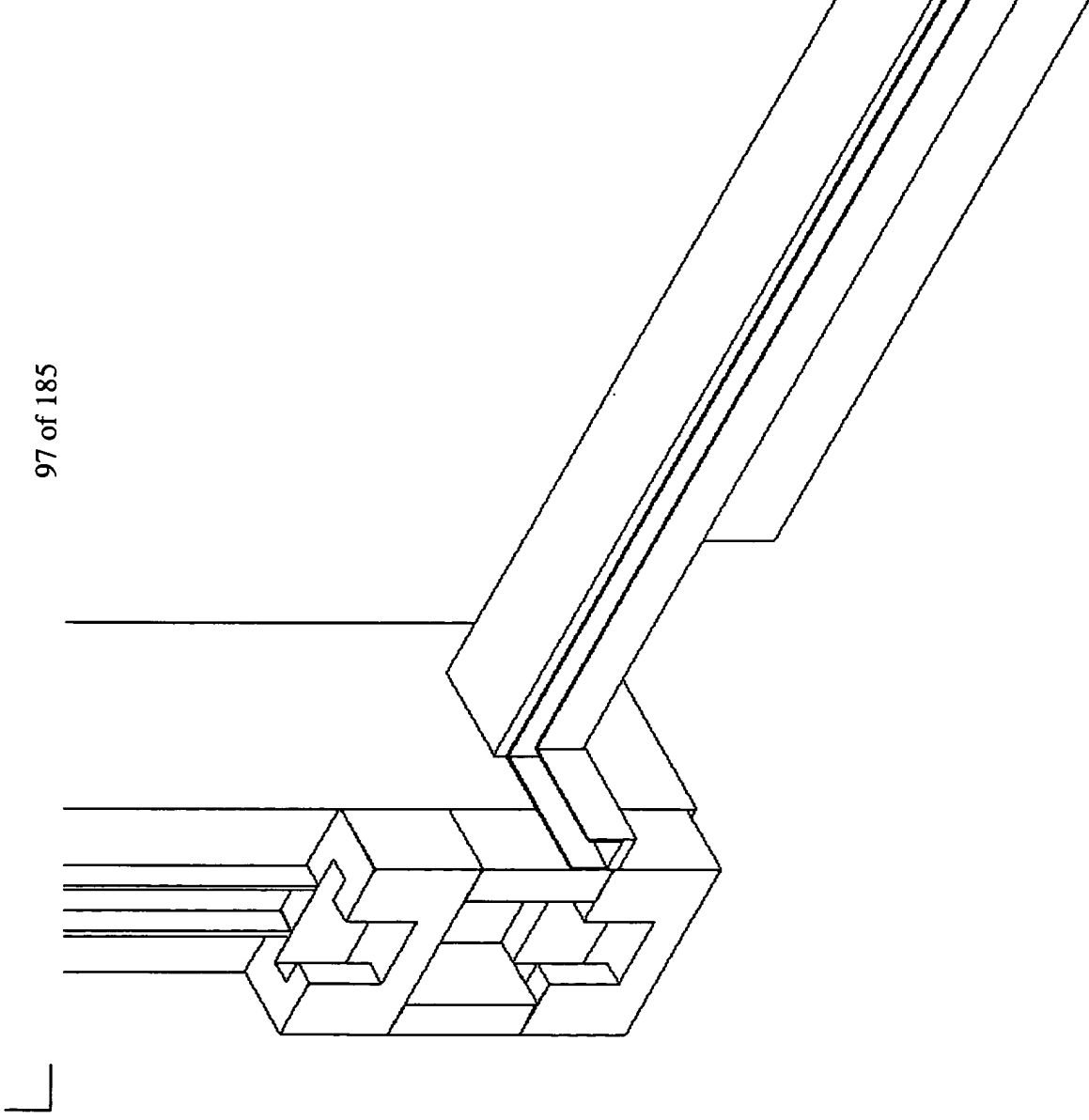


FIG. 26C: Isometric internal view of the corner of a left frame.

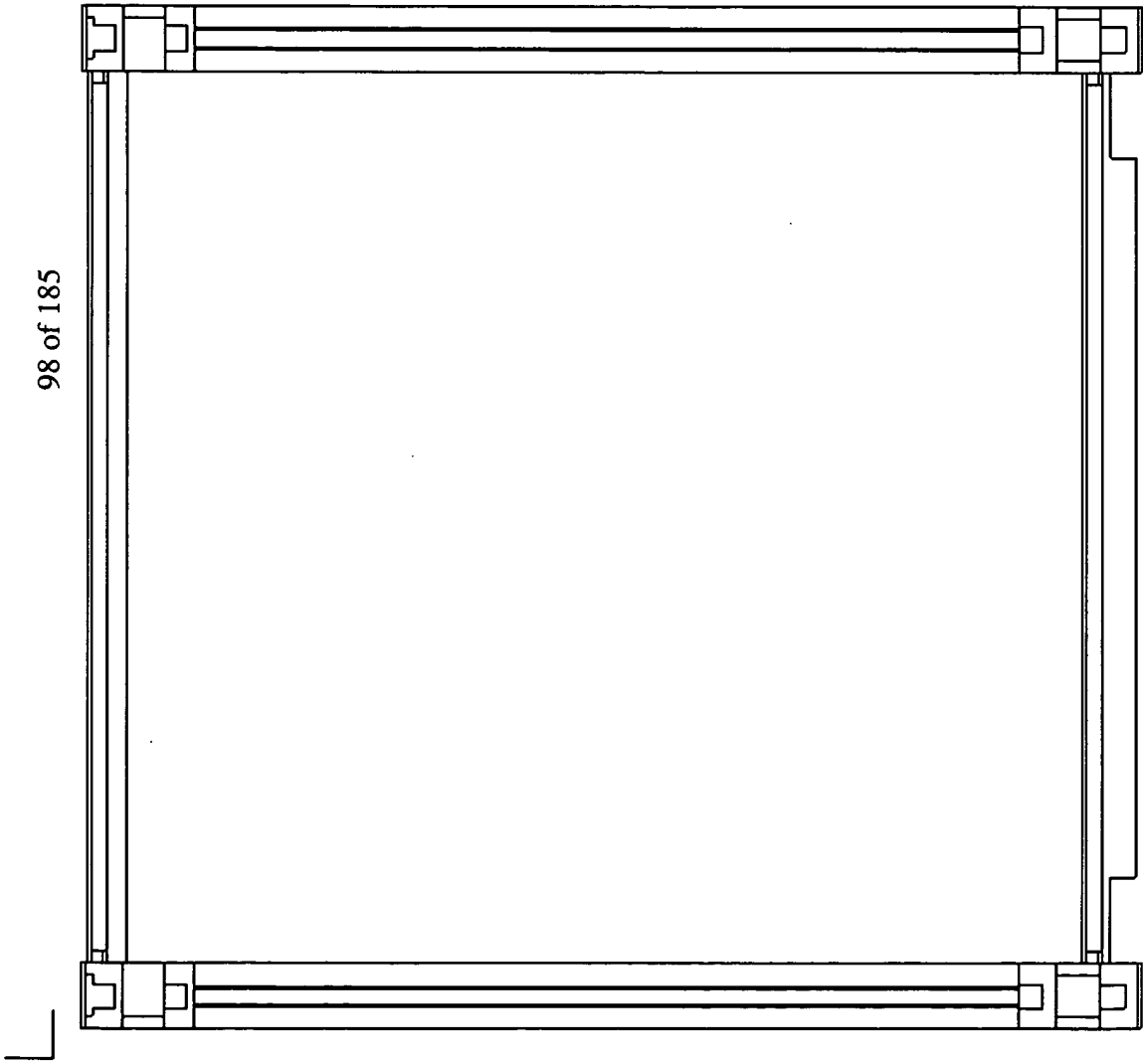


FIG. 27C: Internal view of a left frame.

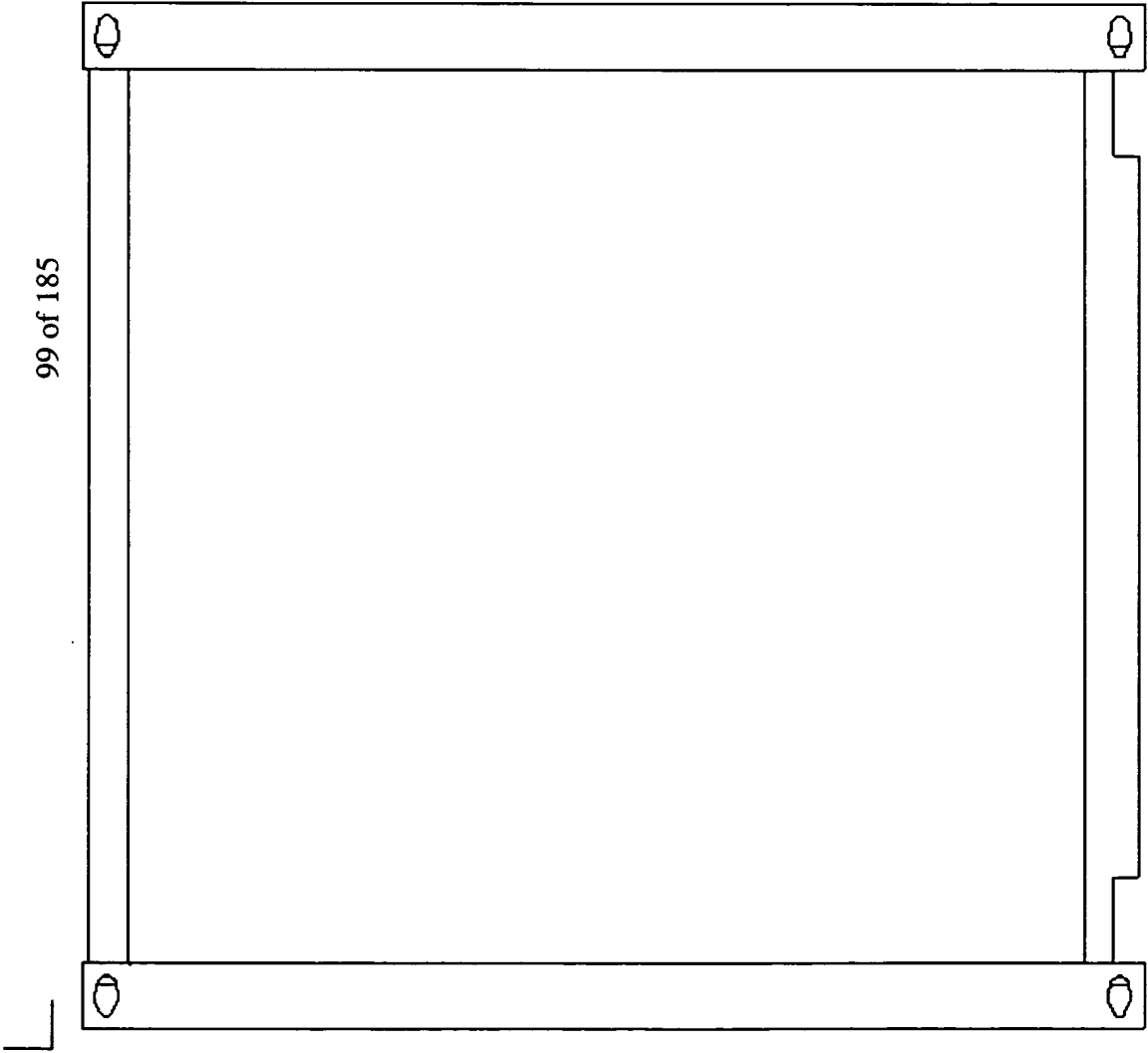


FIG. 28C: External view of a left frame.

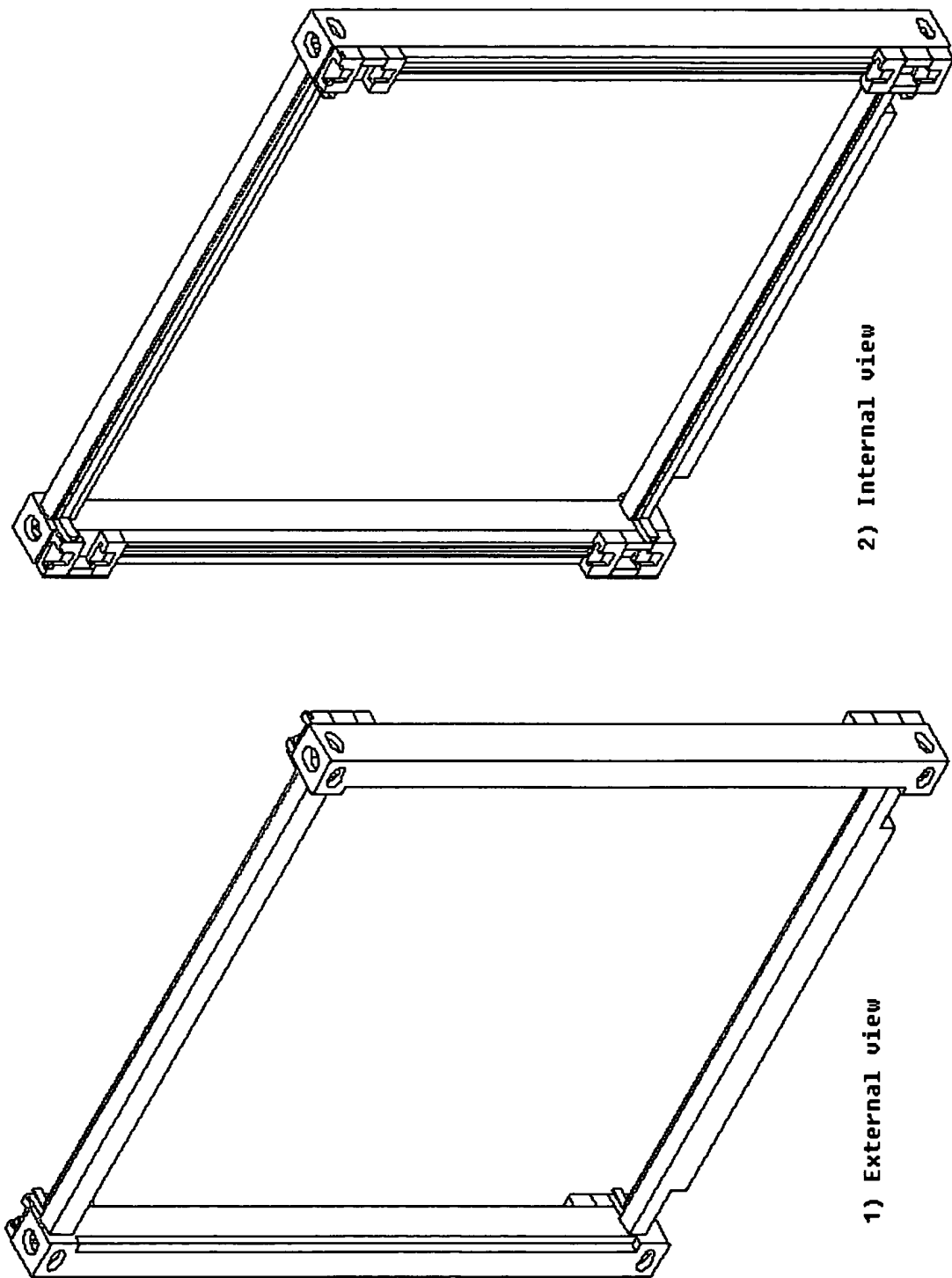


FIG. 29C: Isometric views of a right frame.

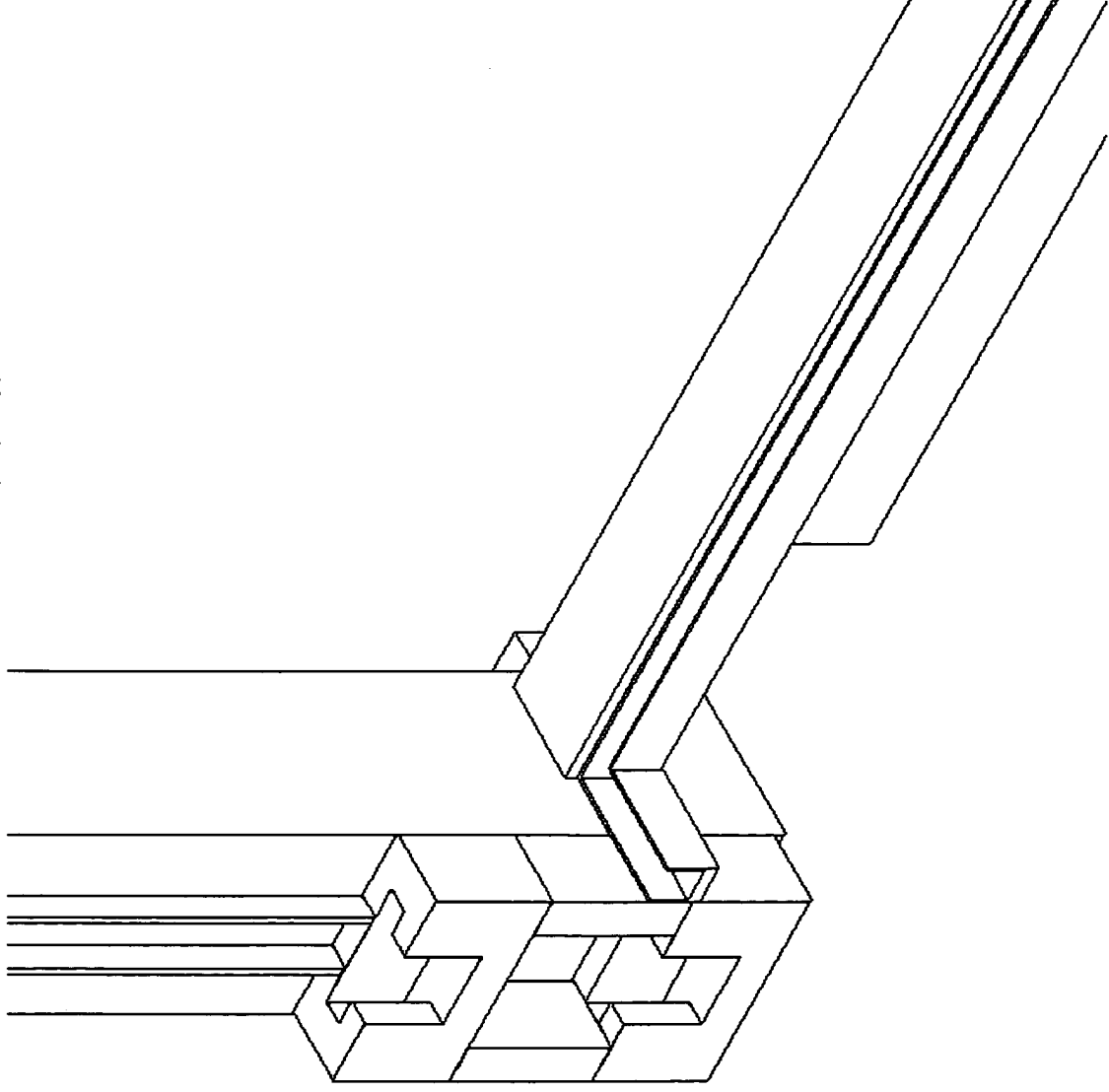


FIG. 30C: Isometric internal view of the corner of a right frame.

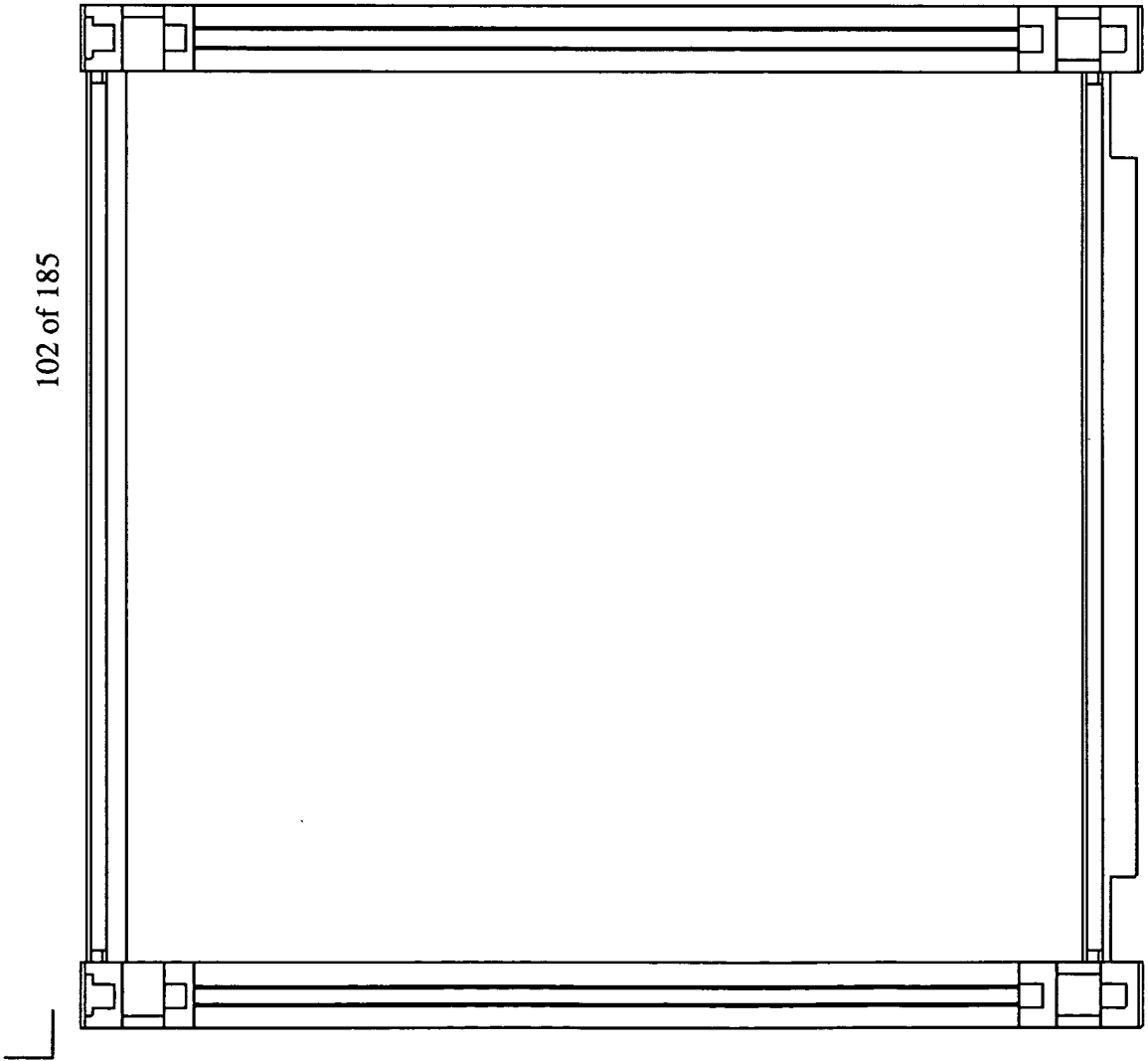


FIG. 31C: Internal view of a right frame.

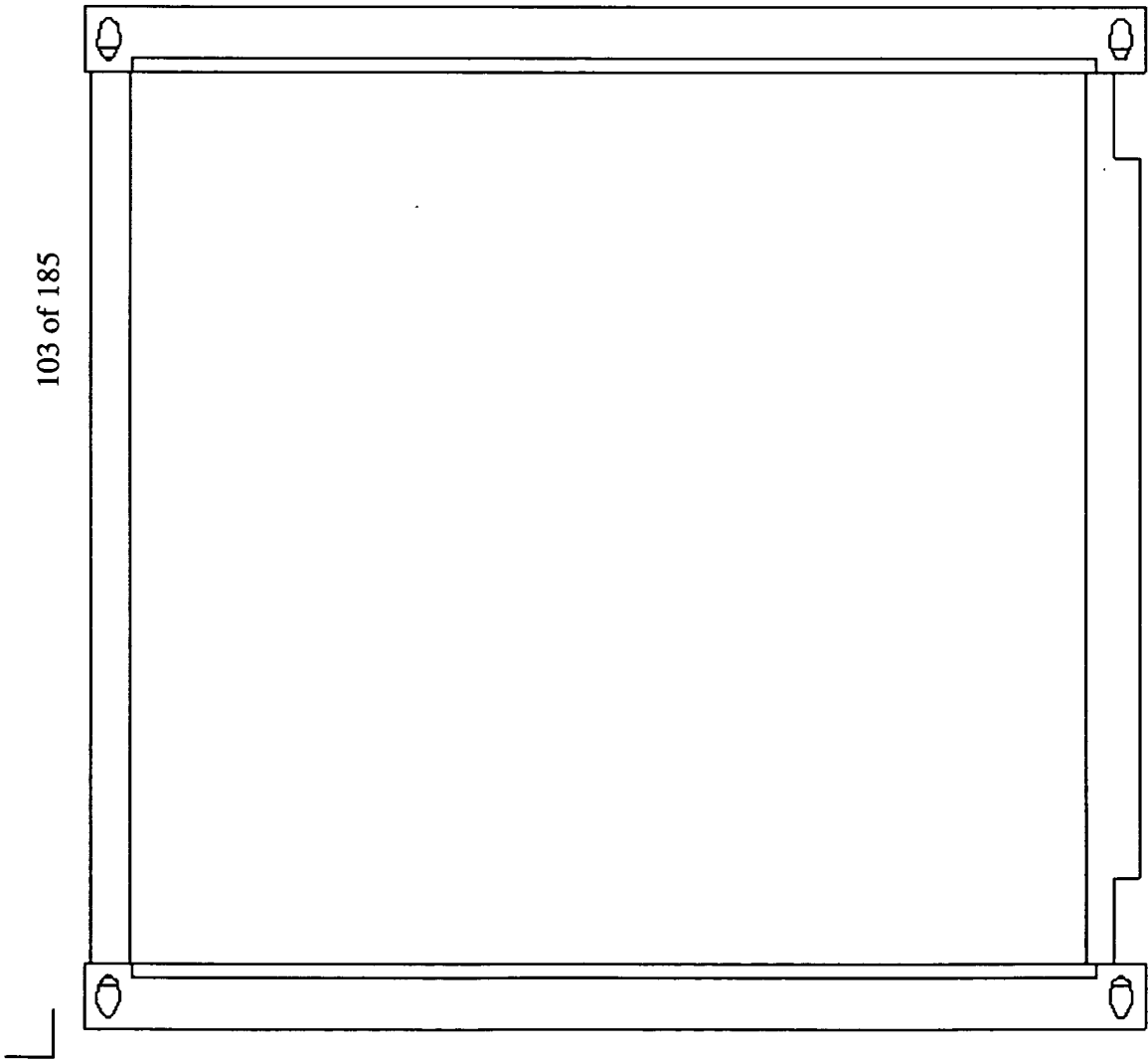


FIG. 32C: External view of a right frame.

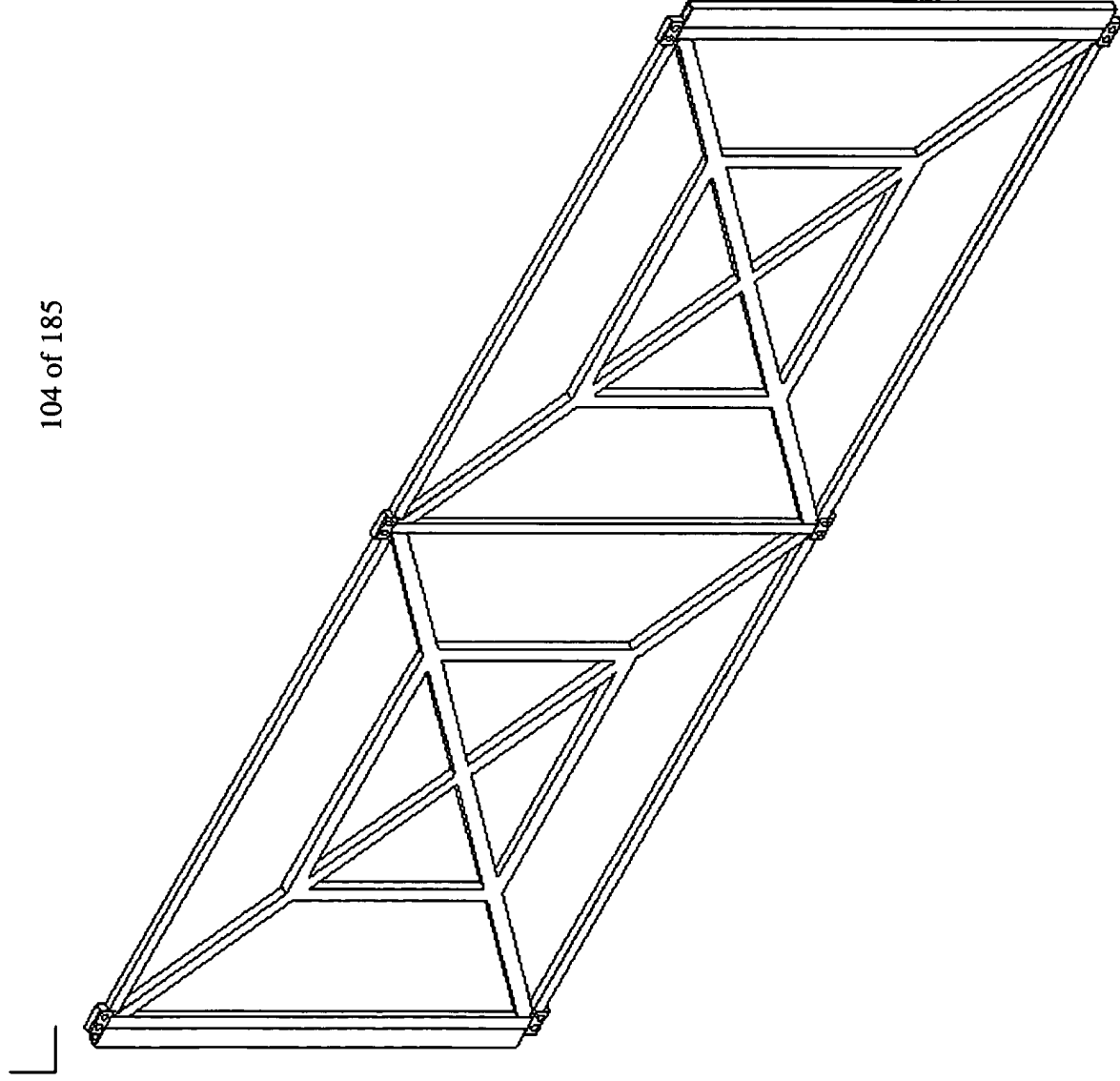


FIG. 33C/D: Isometric view of the front/back frame.

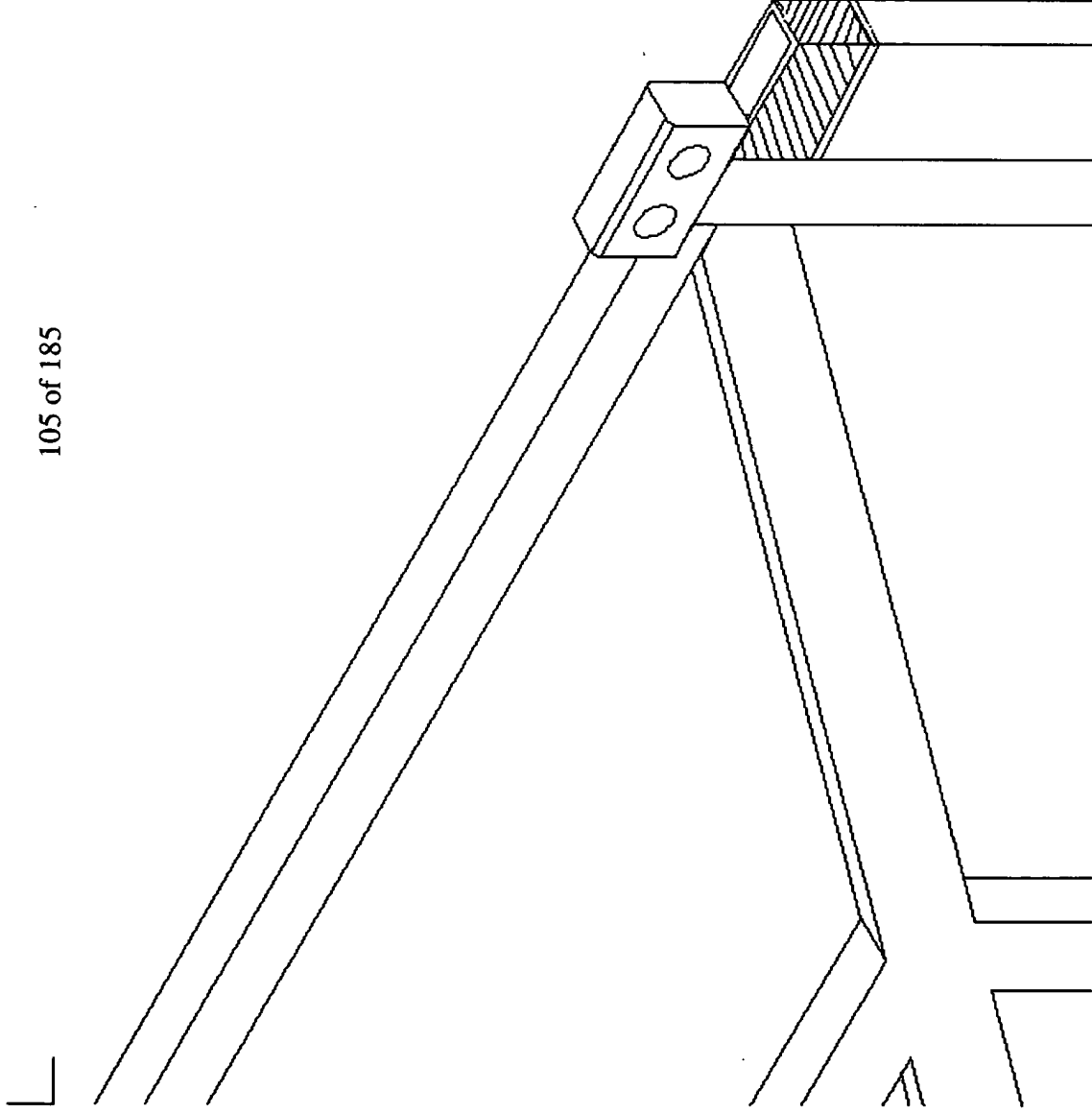


FIG. 34C/D: Isometric view of the top corner of a front/back frame.

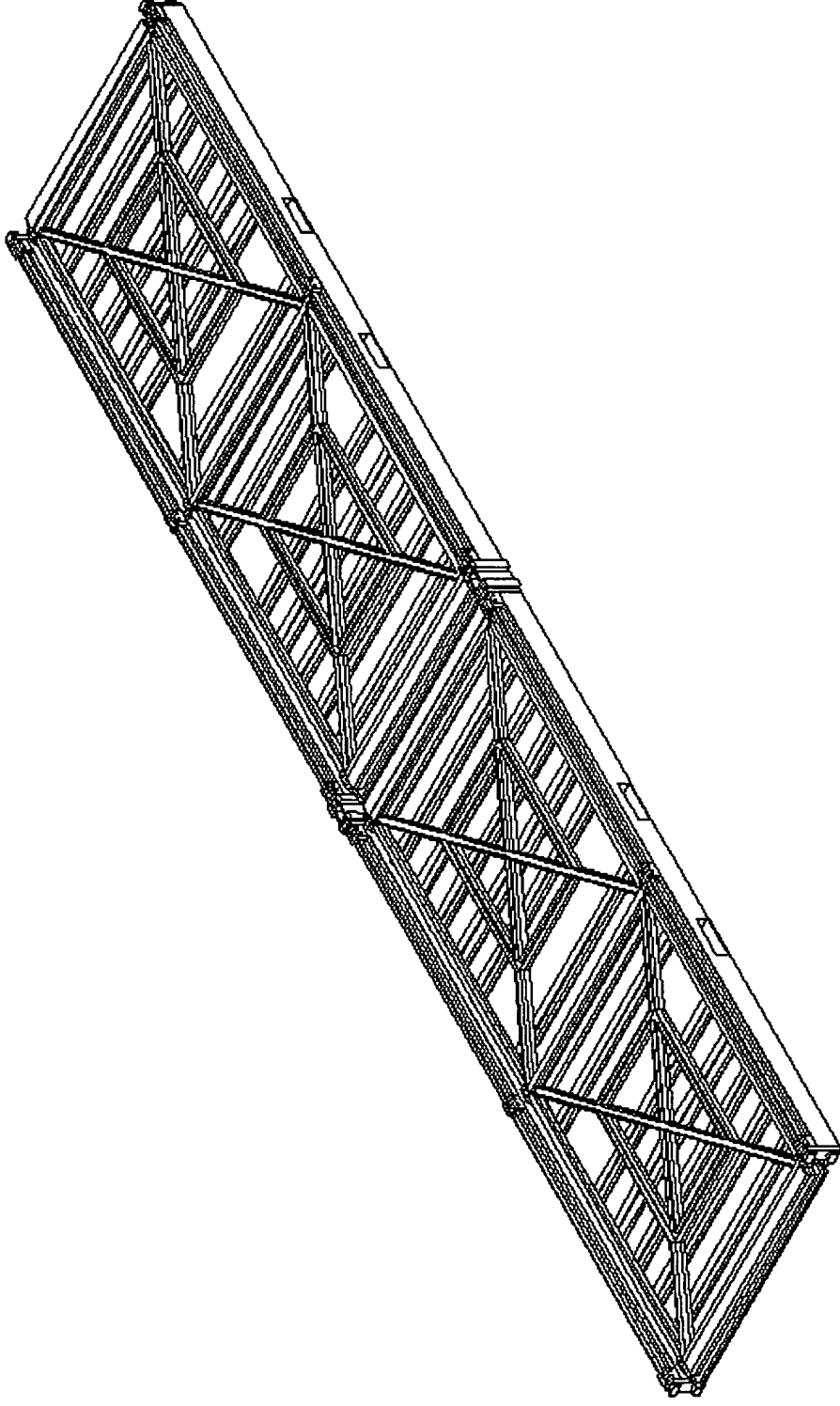


FIG. 35C: Isometric view of connected floor frame that contains two front frames and two back frames.

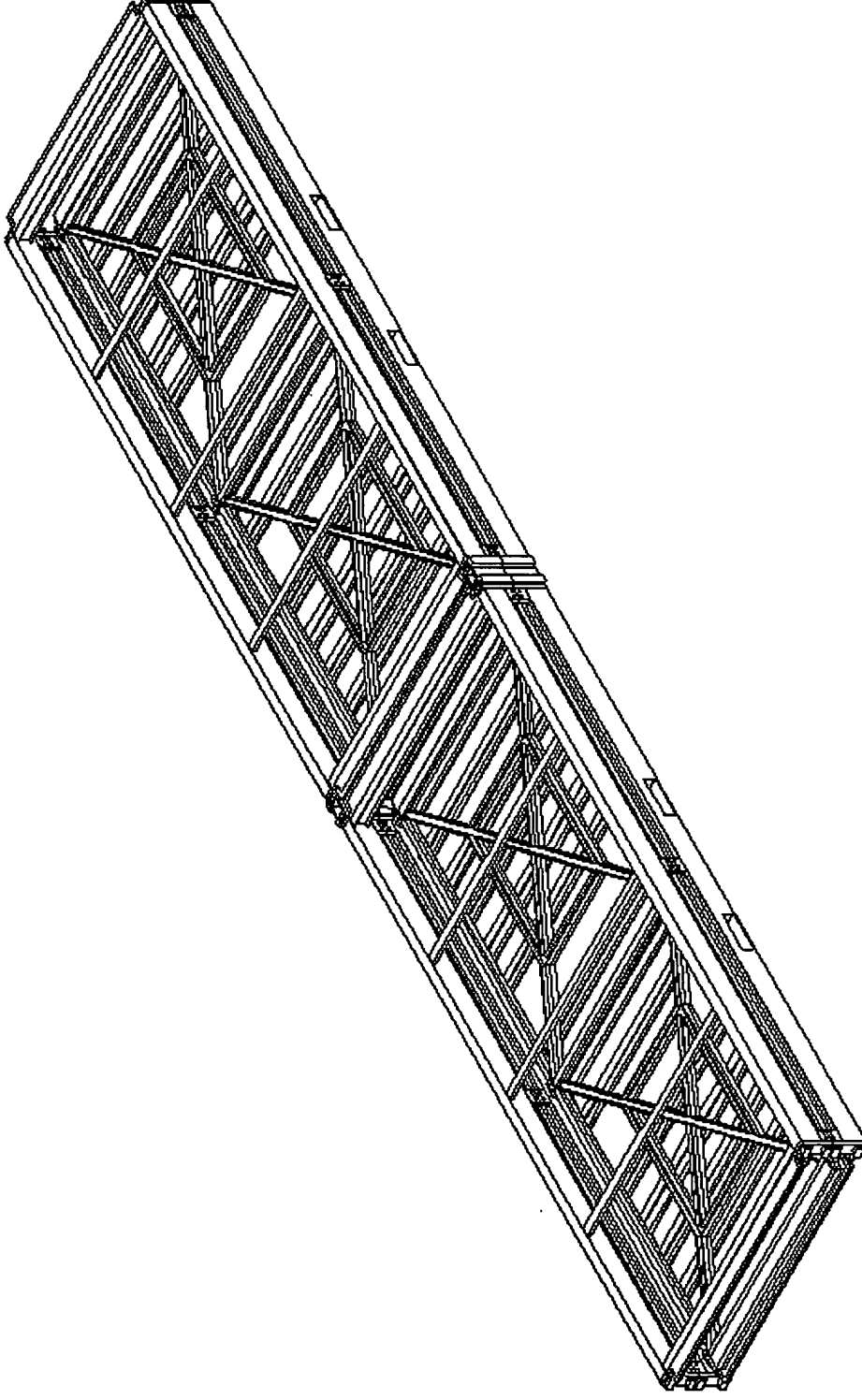


FIG. 36C: Isometric view of connected ceiling frames stacked on top of connected floor frames.

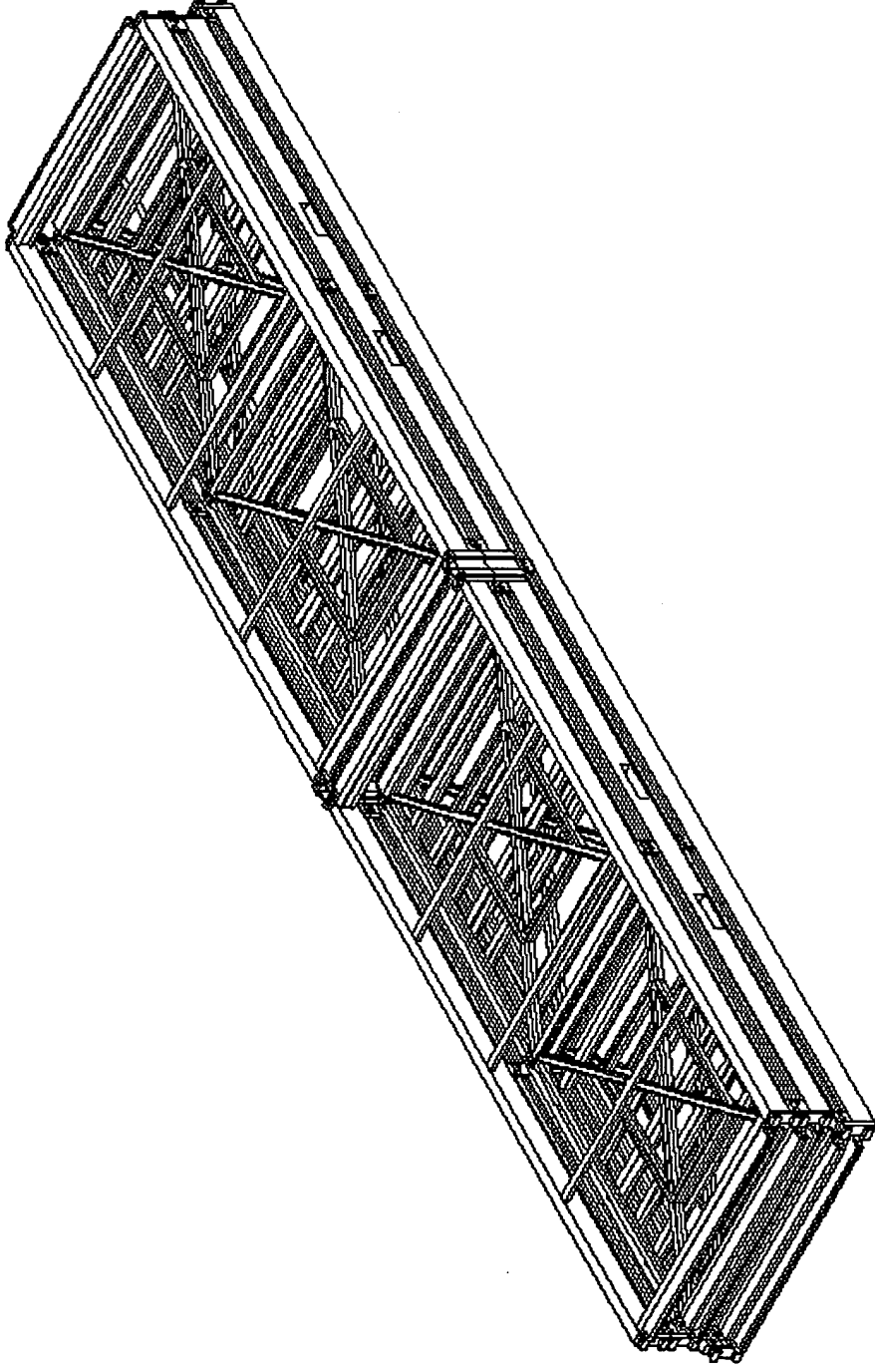


FIG. 41C: Step2 of disassemble and load process.

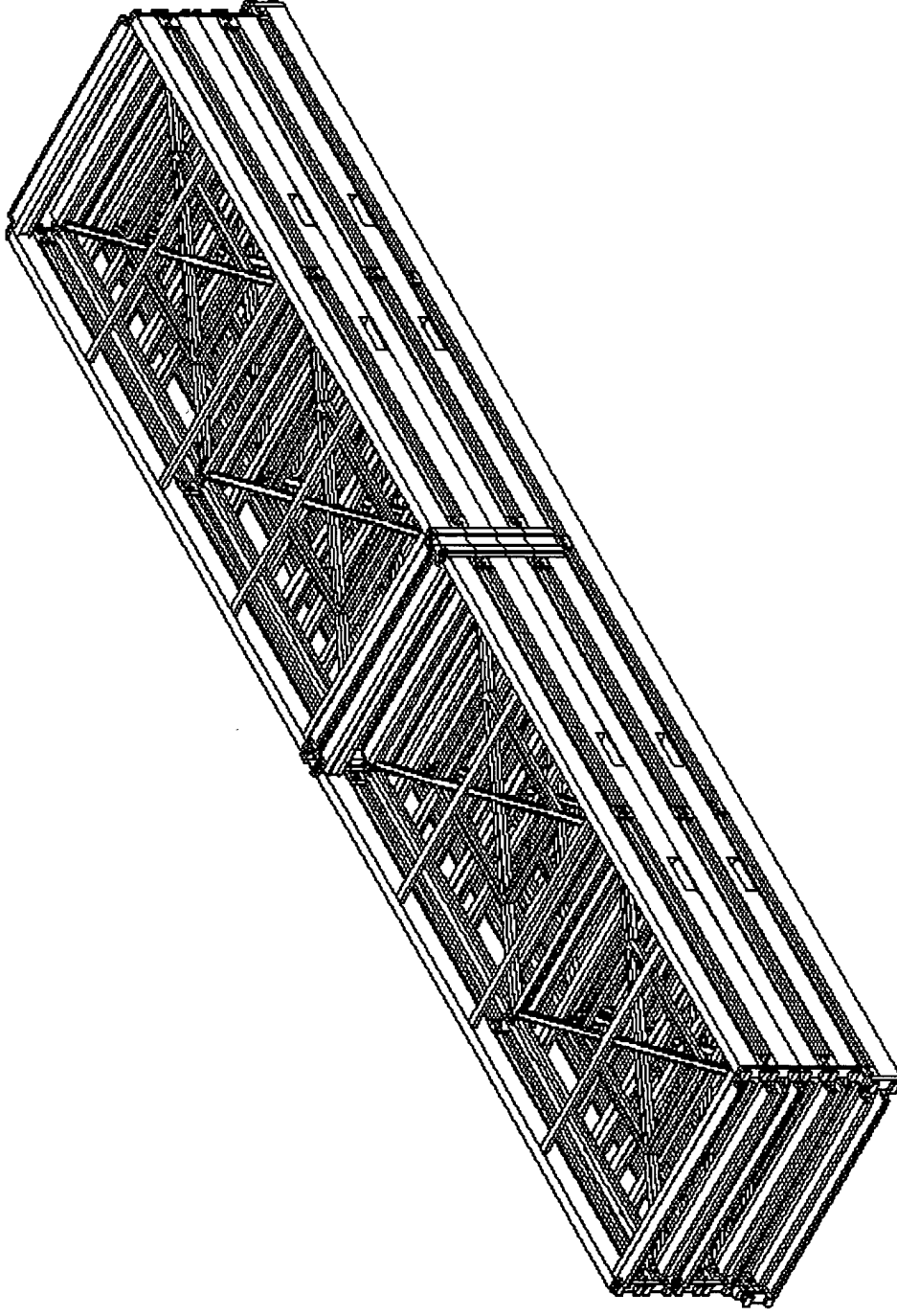


FIG. 42C: Step3 of disassemble and load process.

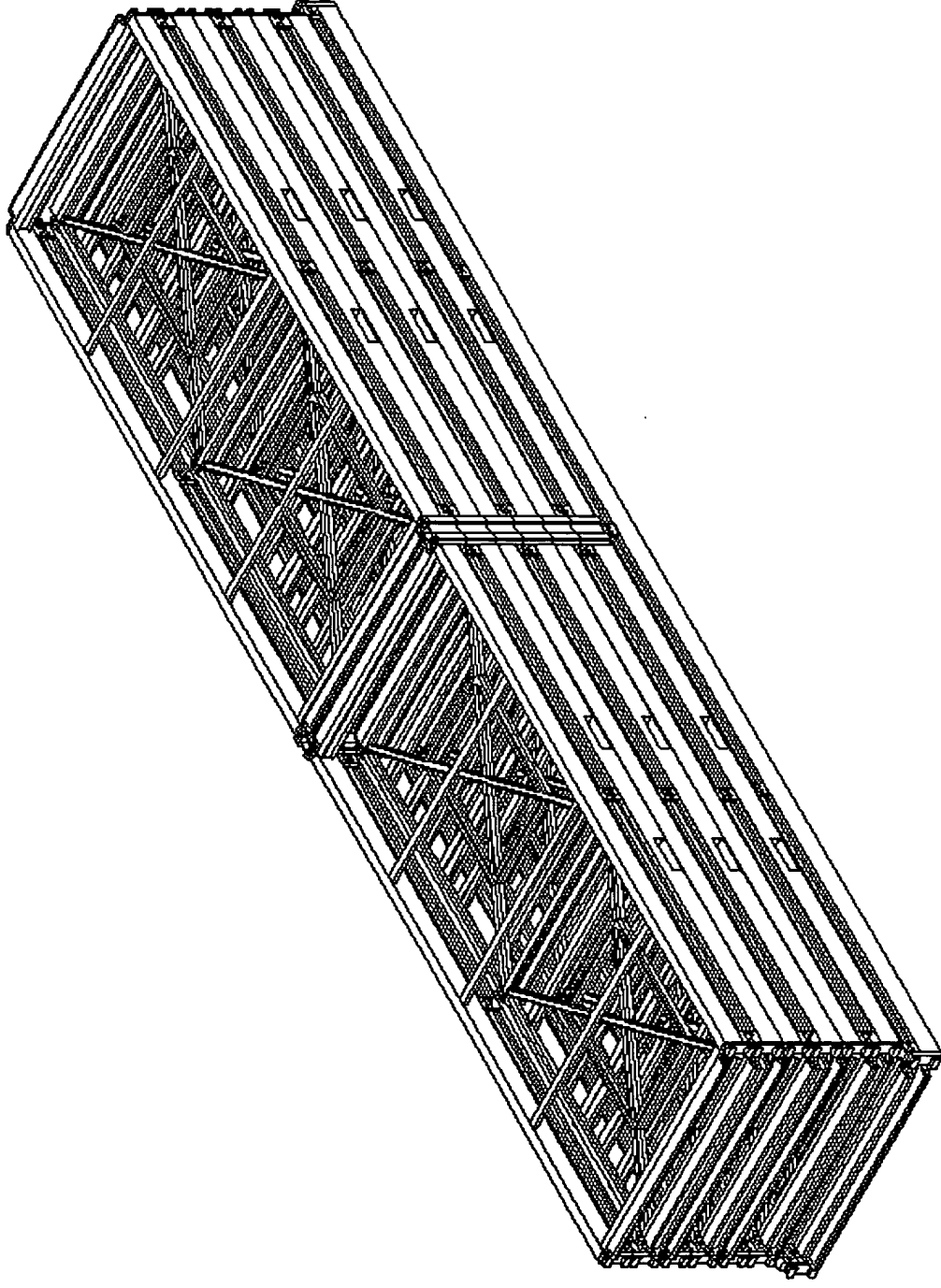


FIG. 43C: Step4 of disassemble and load process.

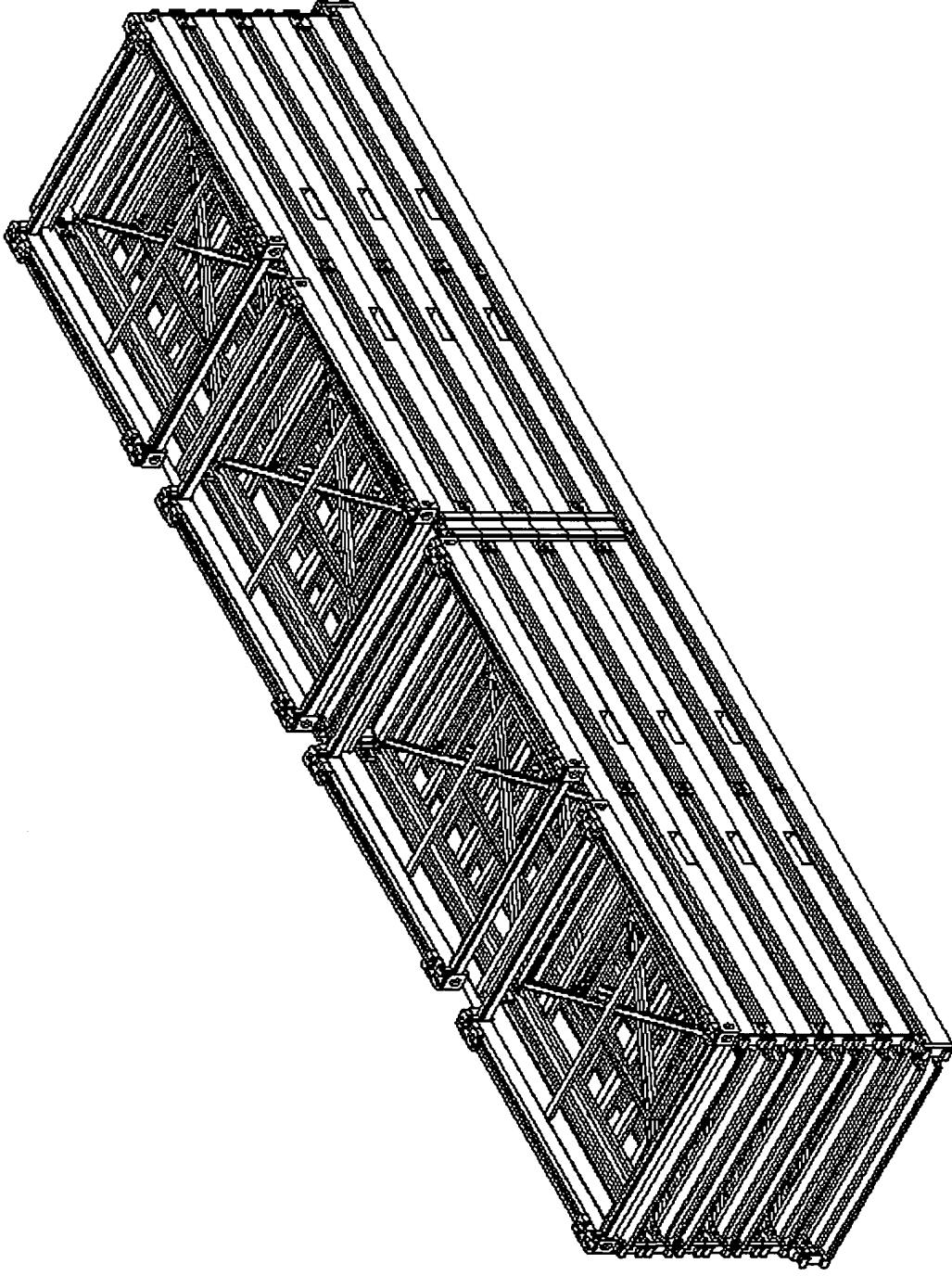


FIG. 44C: Step5 of disassemble and load process.

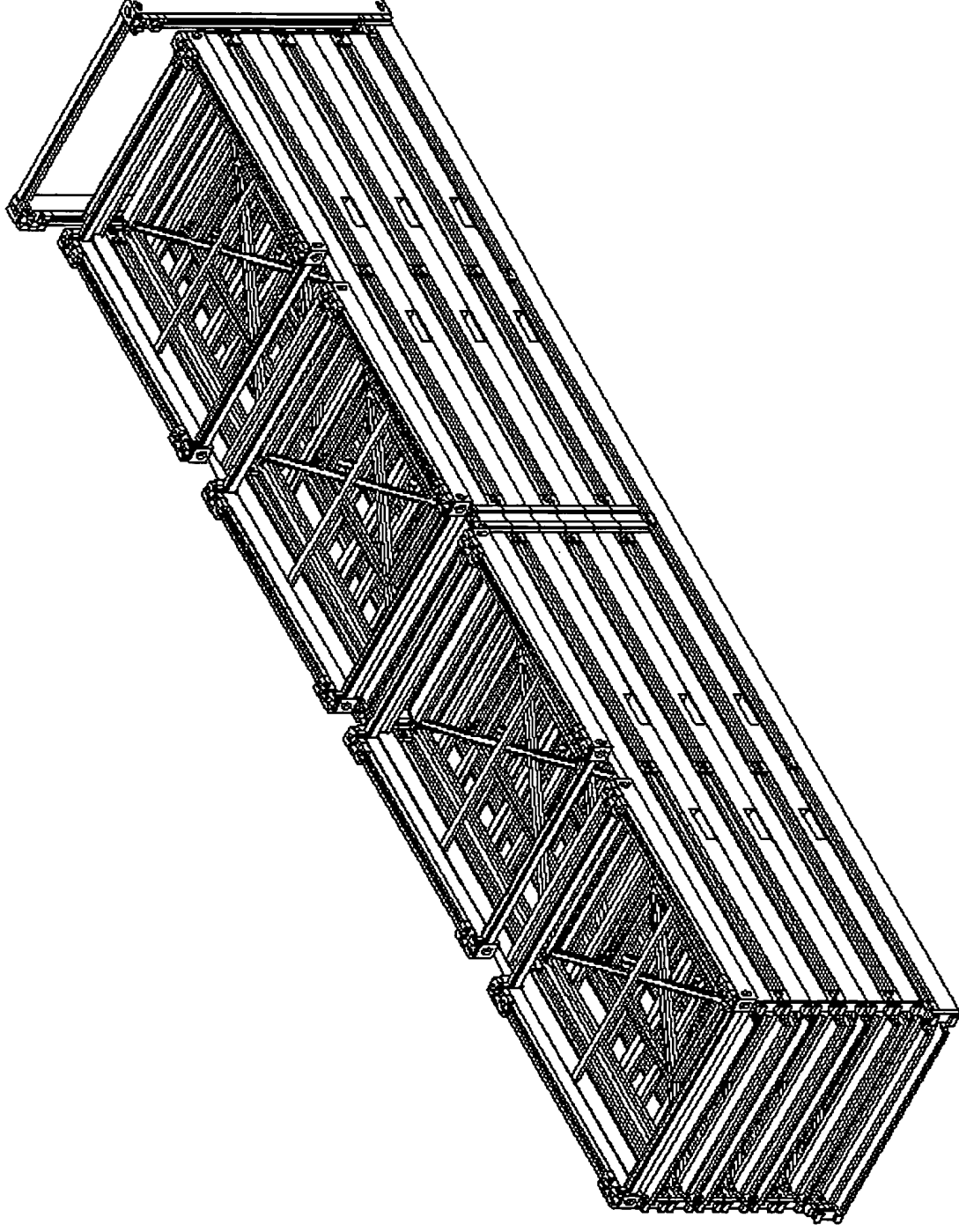


FIG. 45C: Step6 of disassemble and load process.

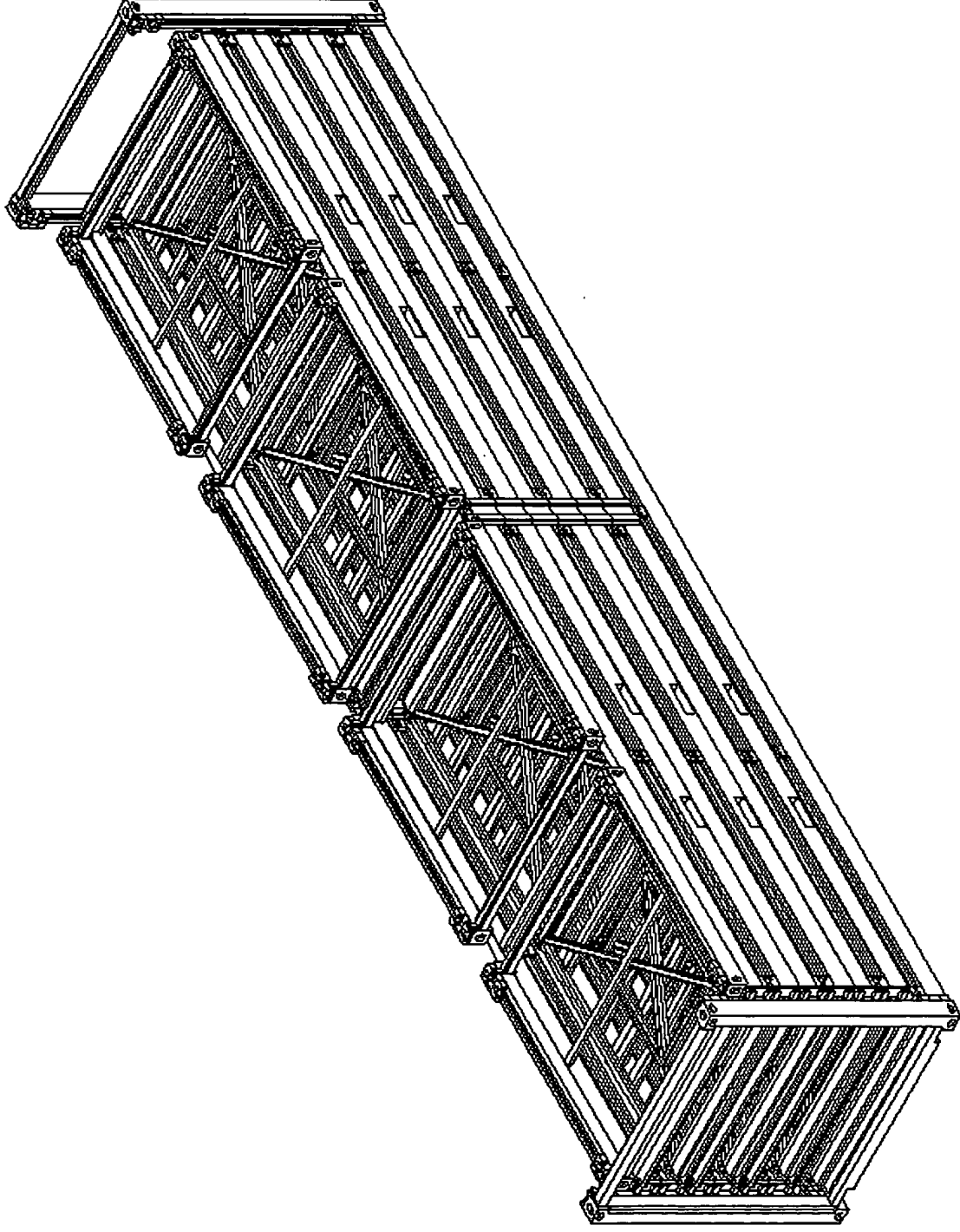


FIG. 46C: Step7 of disassemble and load process.

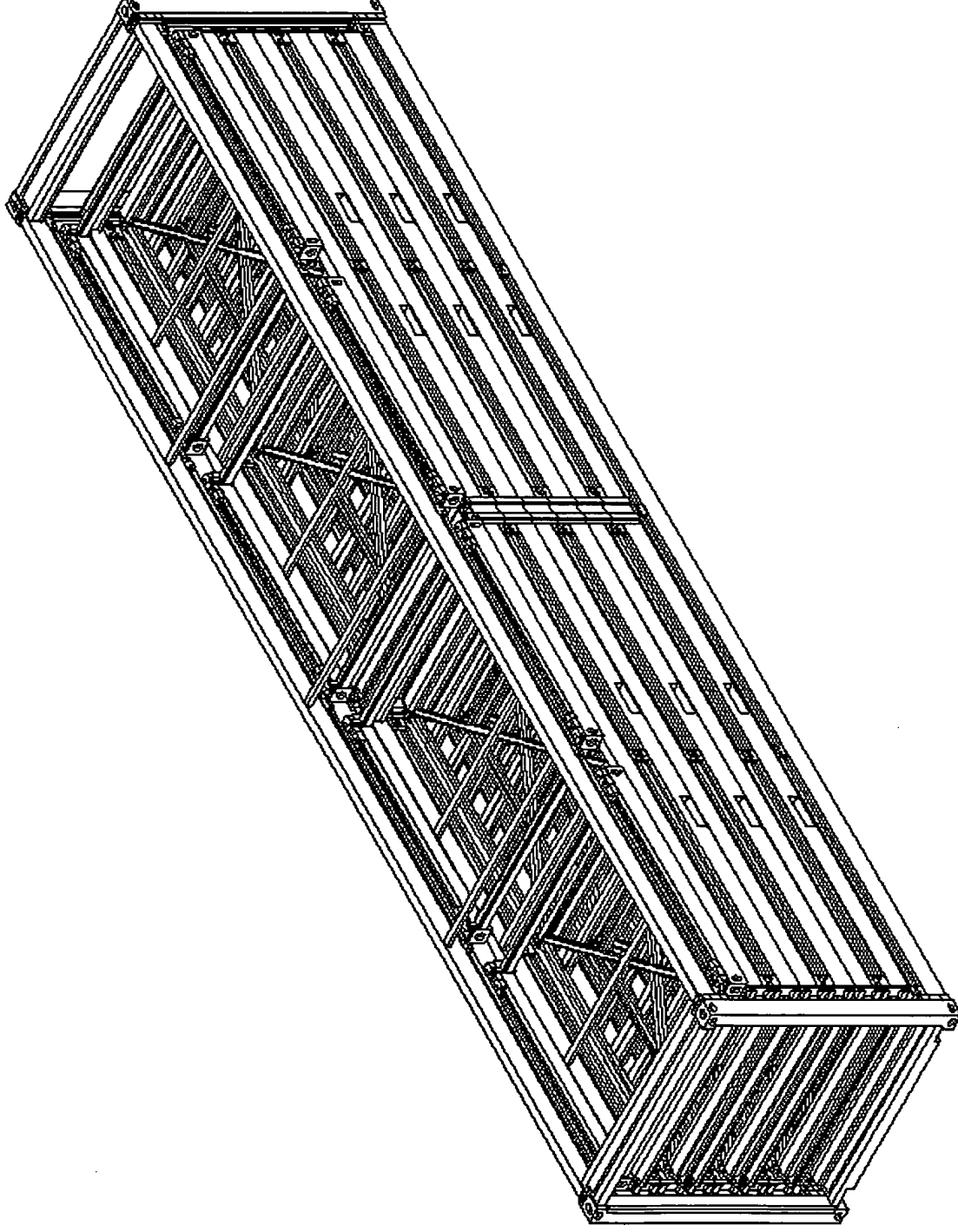


FIG. 47C: Step8 of disassemble and load process.

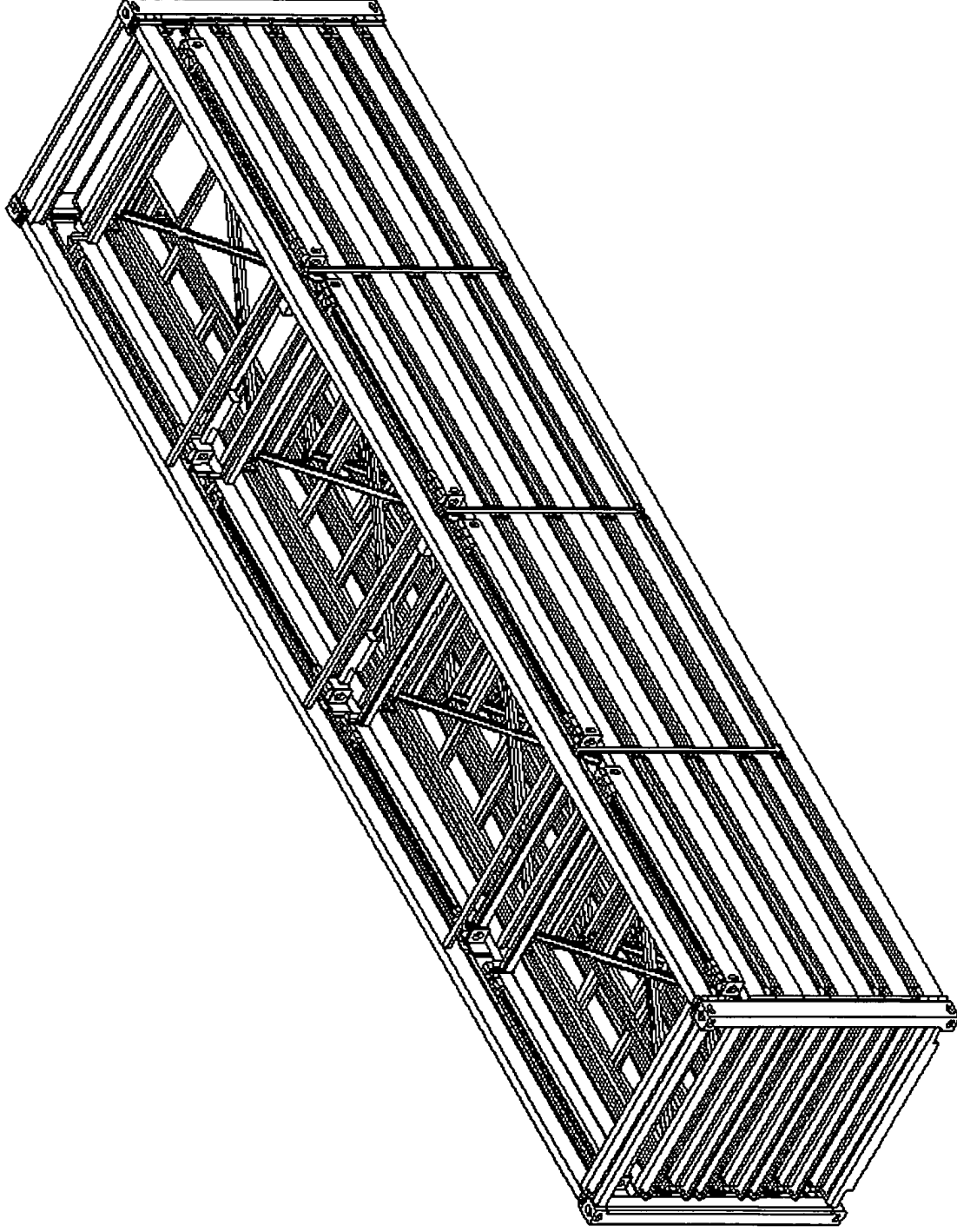


FIG. 48C: Step9 of disassemble and load process.

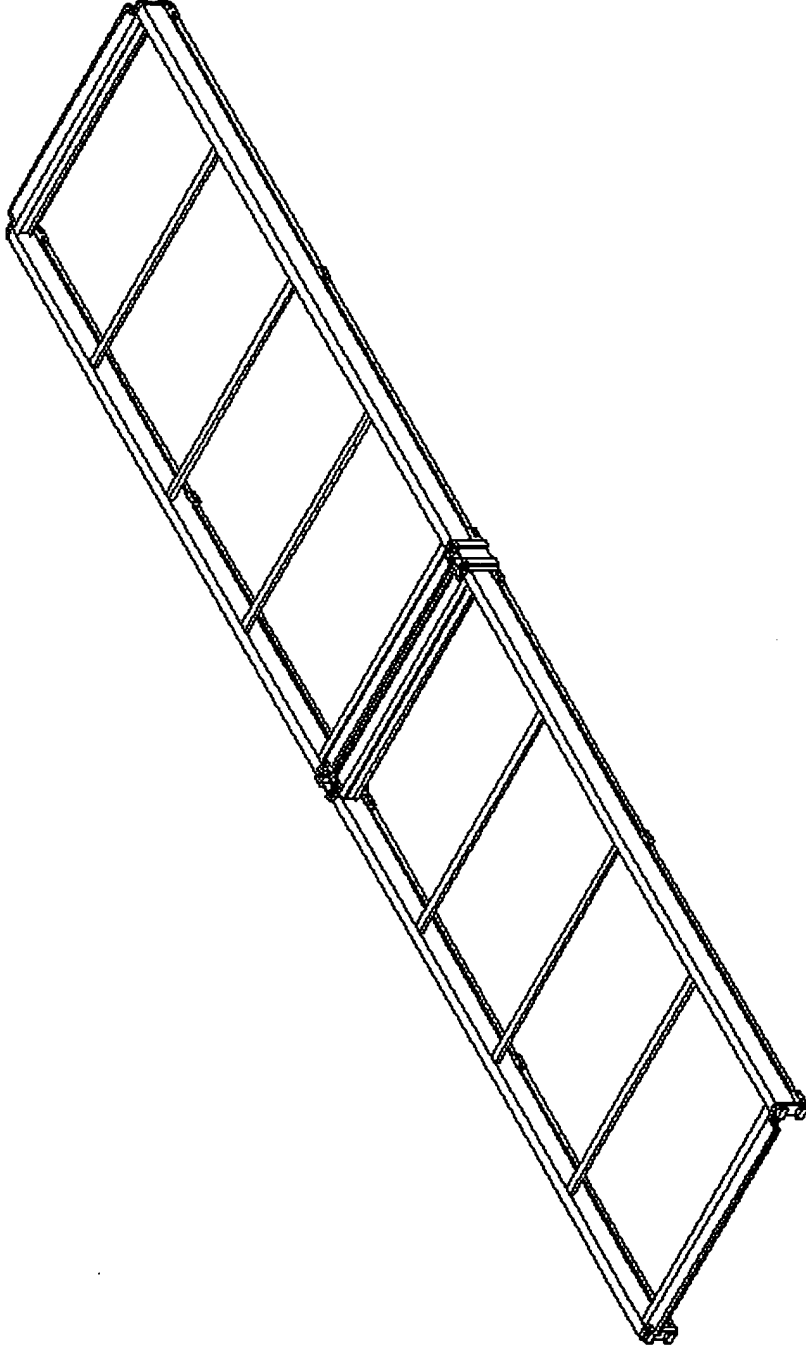
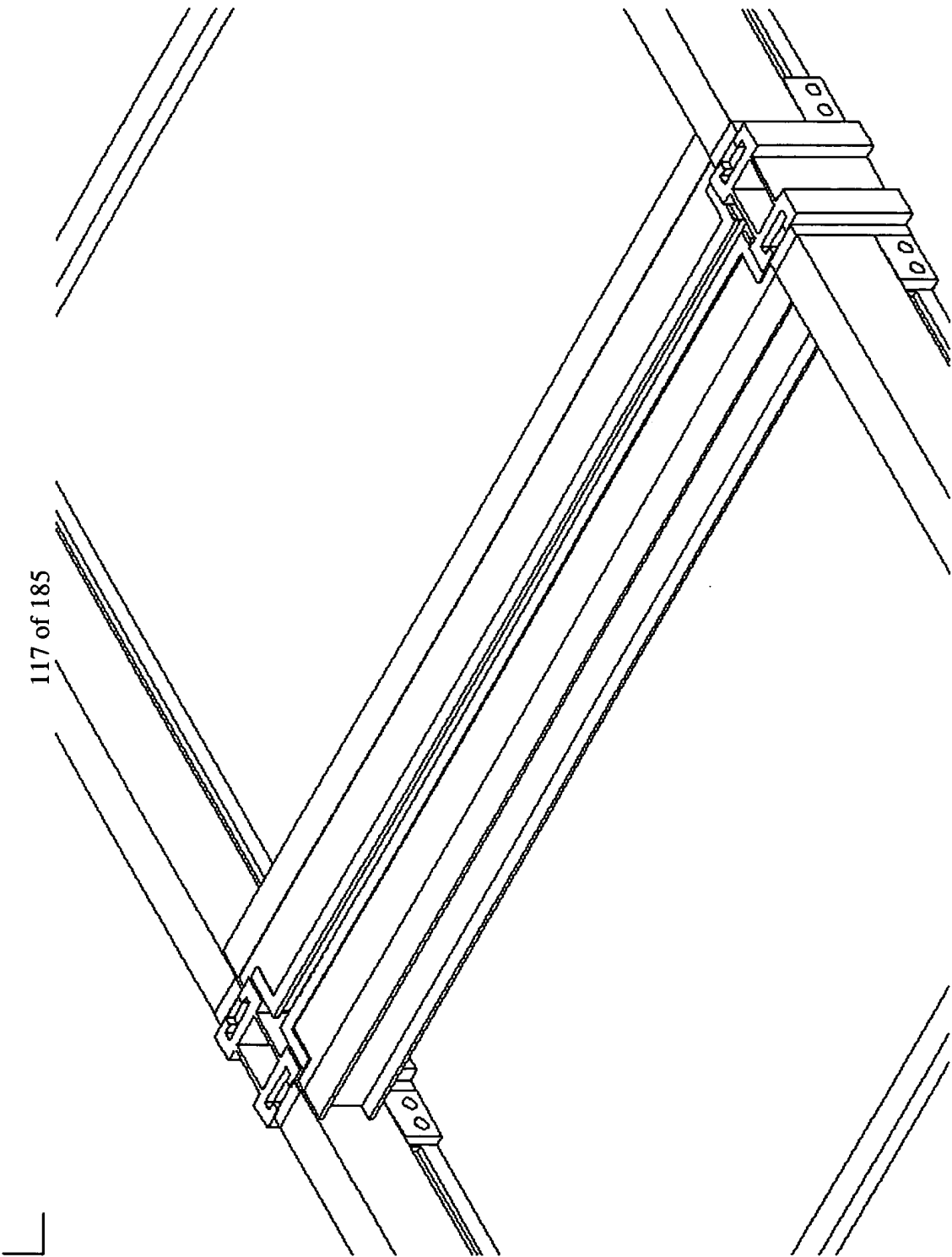


FIG. 49C: Two connectors connect two ceiling frame panels during the shipping process..



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FIG. 50C: Detail view based on FIG. 49C.

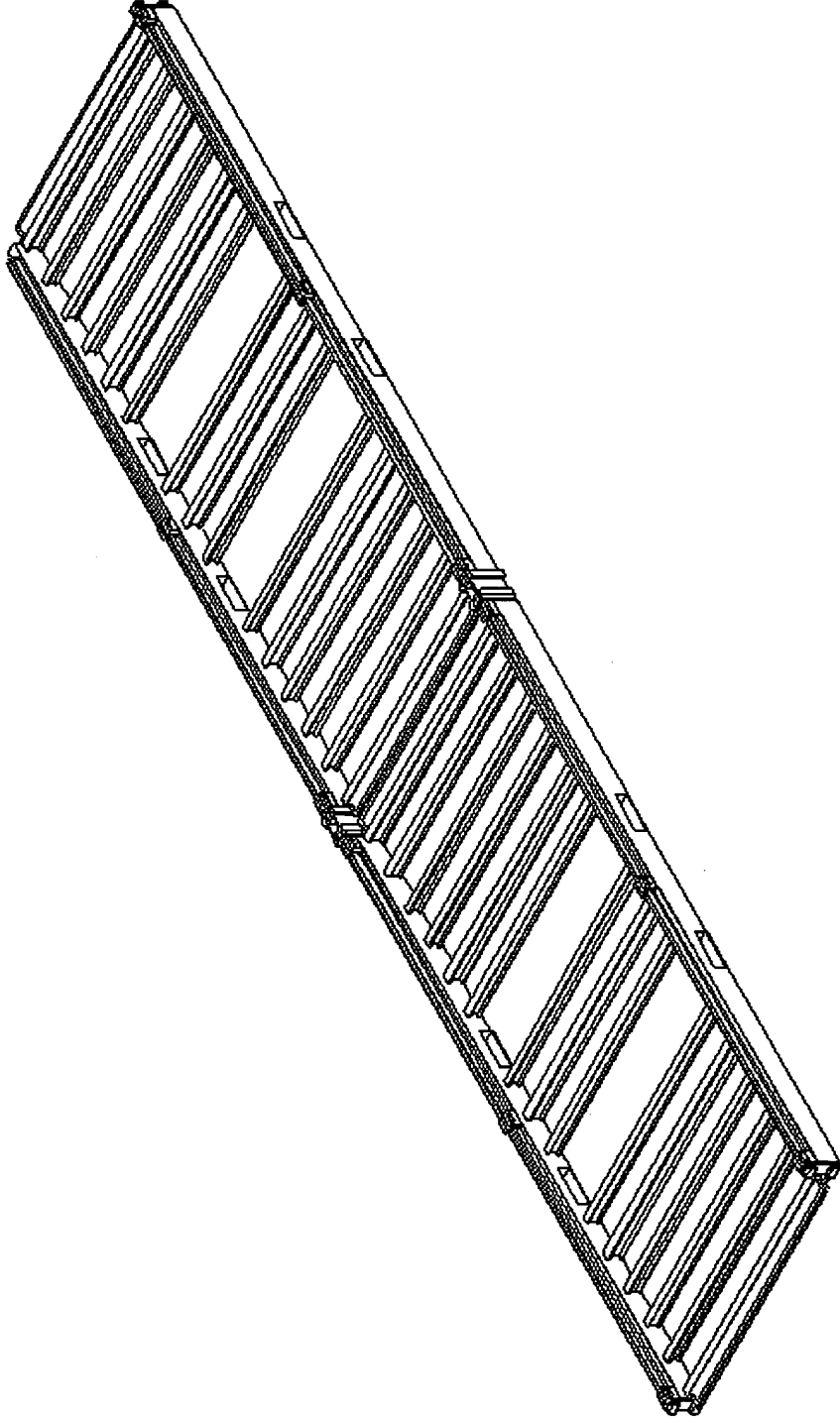


FIG. 51C: Two connectors connect two floor frame panels during the shipping process..

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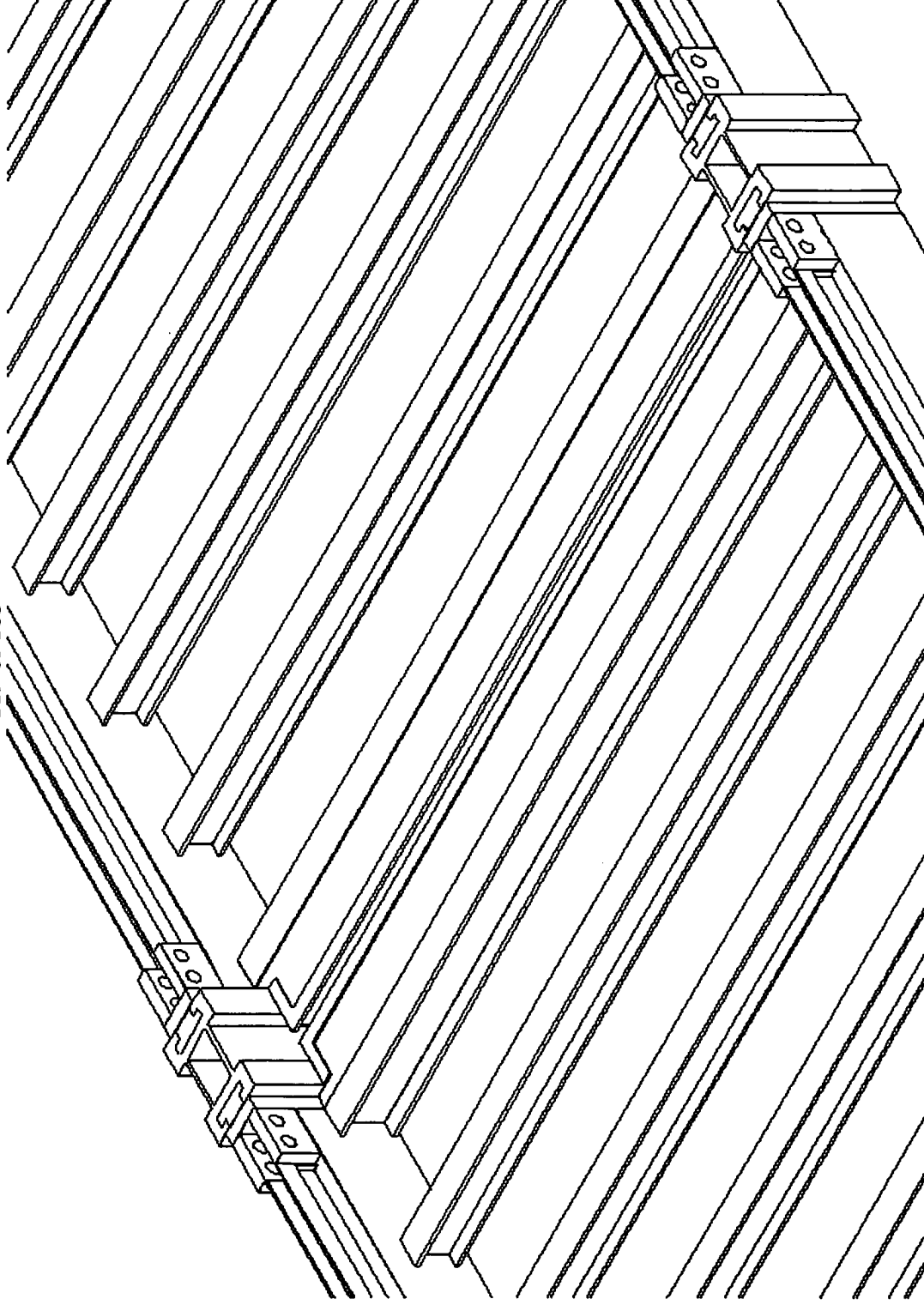


FIG. 52C: Detail view based on FIG. 51C.

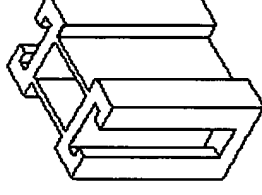
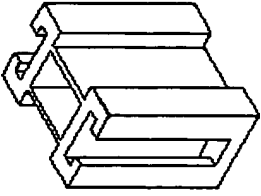


FIG. 53C: Two connectors used to connect two floor frame panels as well as two ceiling frame panels..

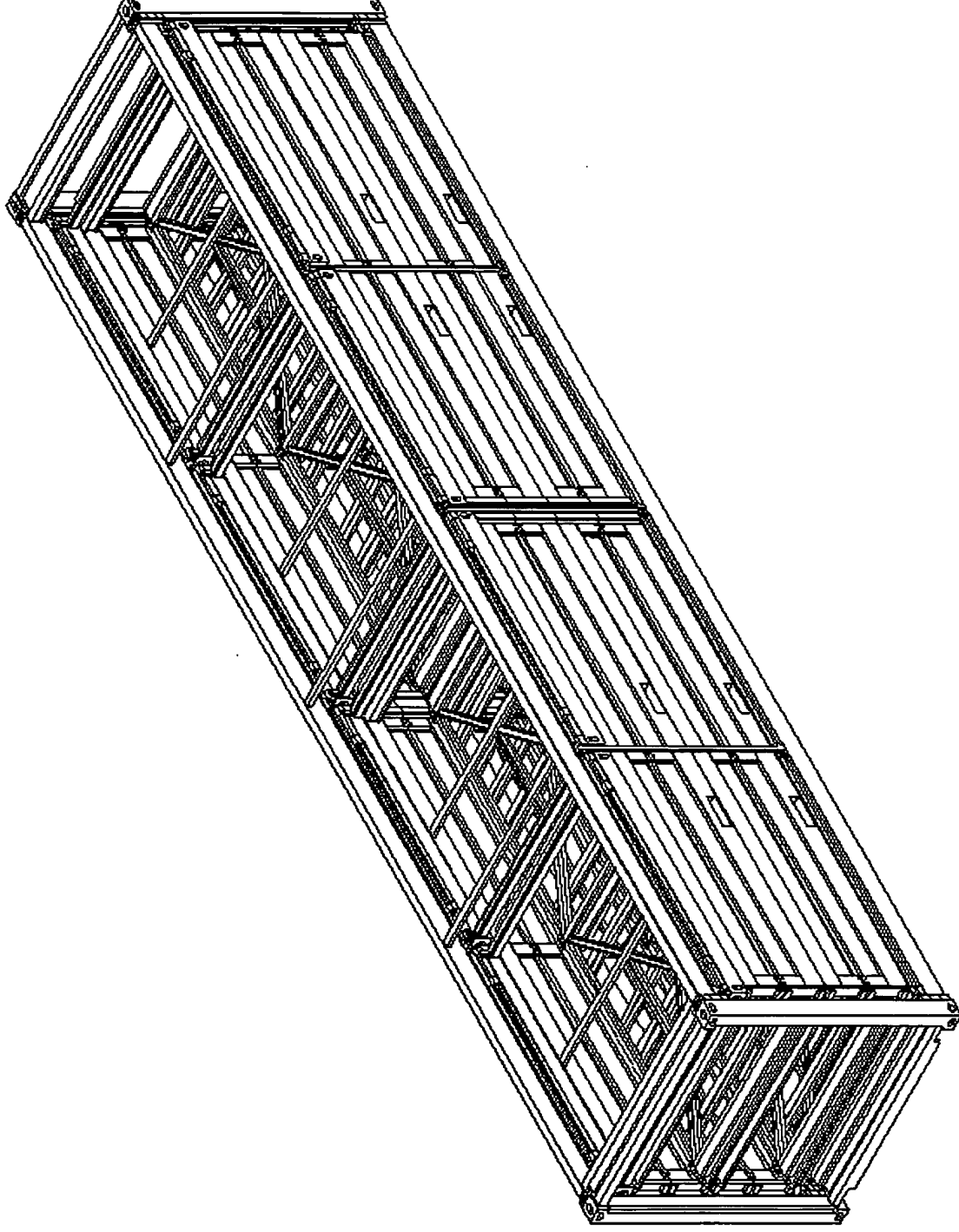


FIG. 1D: Basic isometric view of the 40 foot container loaded with four collapsed 20 foot high cube container frame panels.

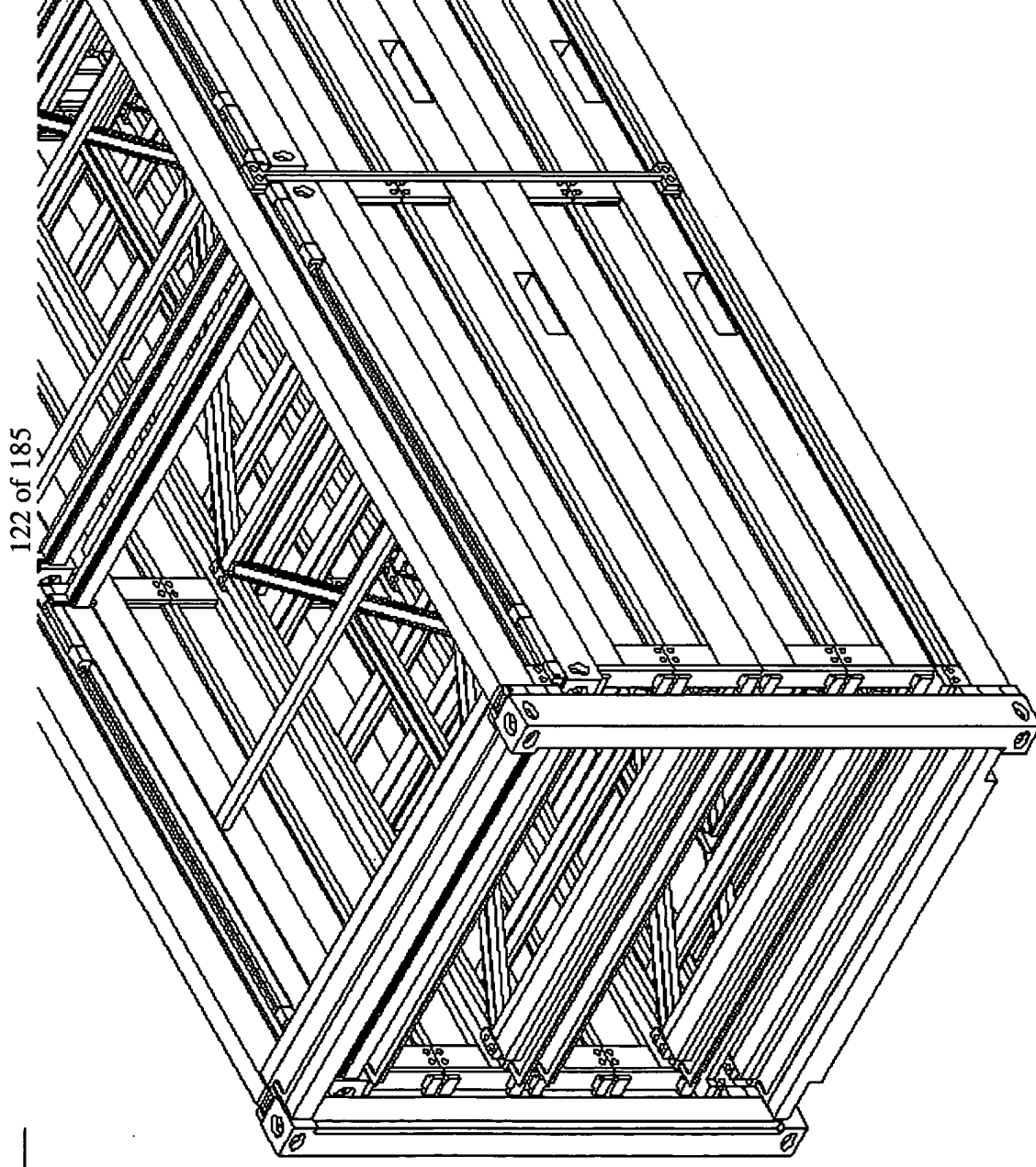


FIG. 2D: Detailed isometric view of the 40 foot container loaded with four collapsed 20 foot high cube container frame panels.

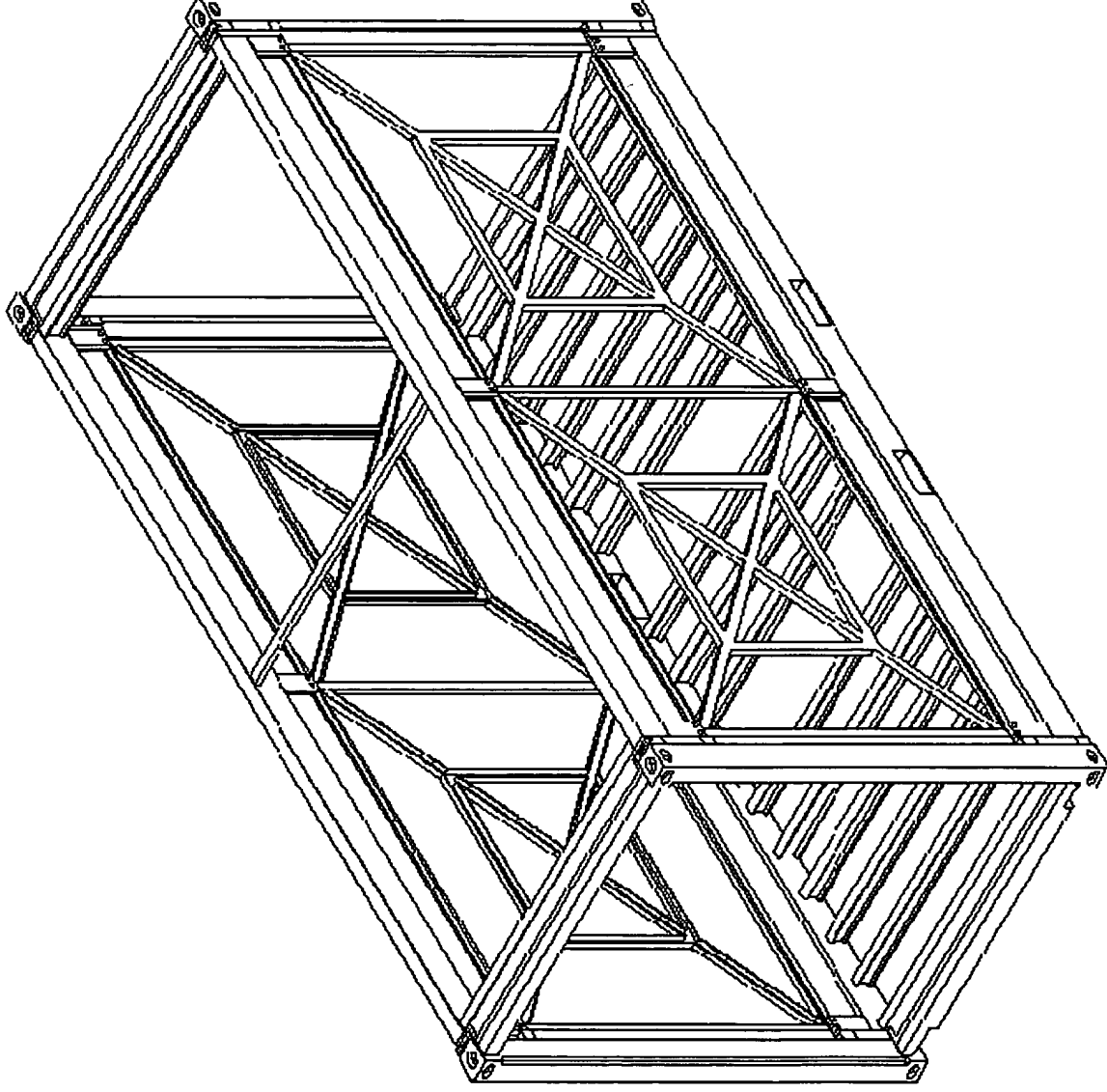


FIG. 3D: Basic isometric view of the 20 foot high cube high cube collapsible cargo container frame

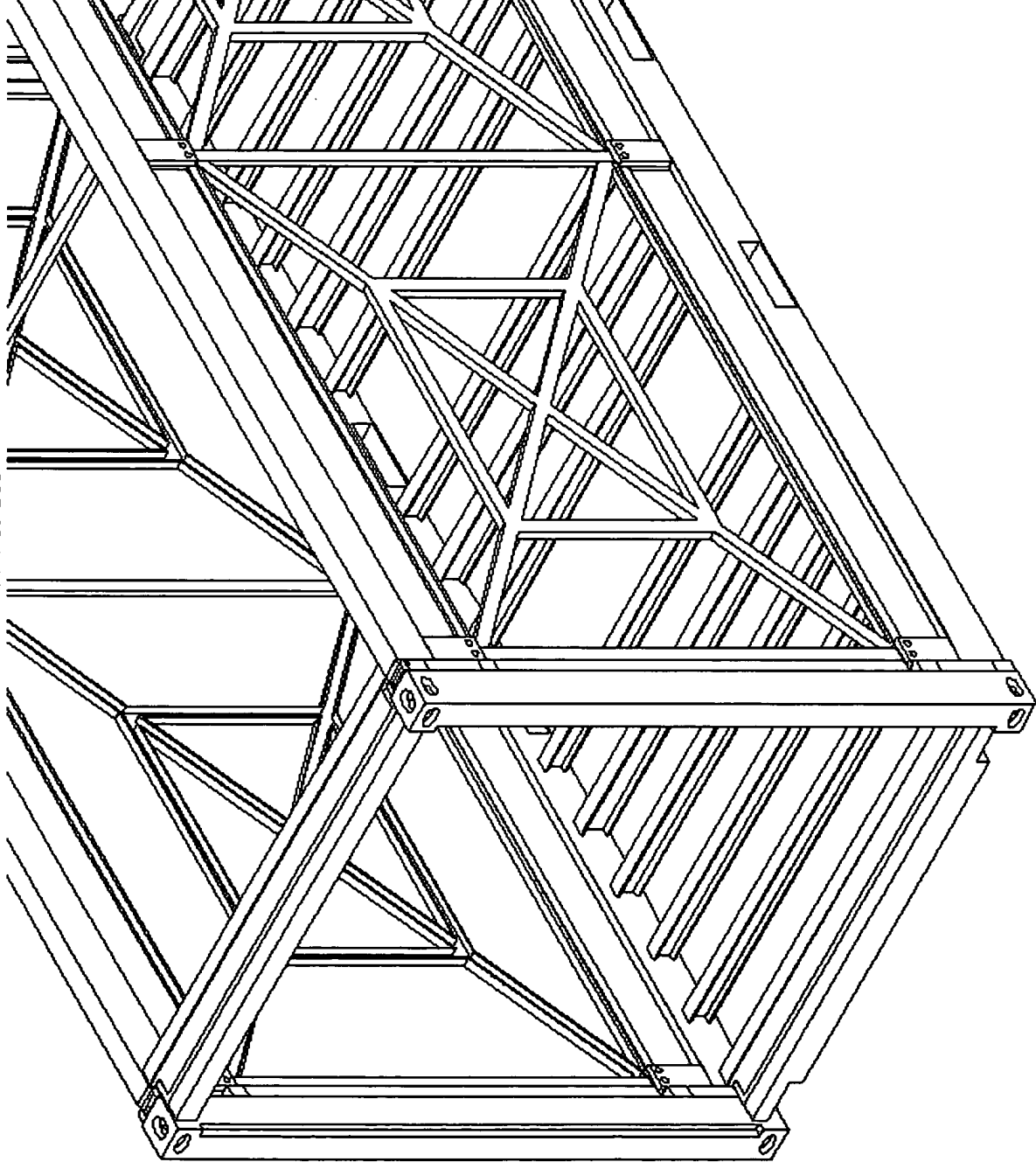


FIG. 4D: Enlarged isometric view of the right end of a 20 foot high cube collapsible cargo container

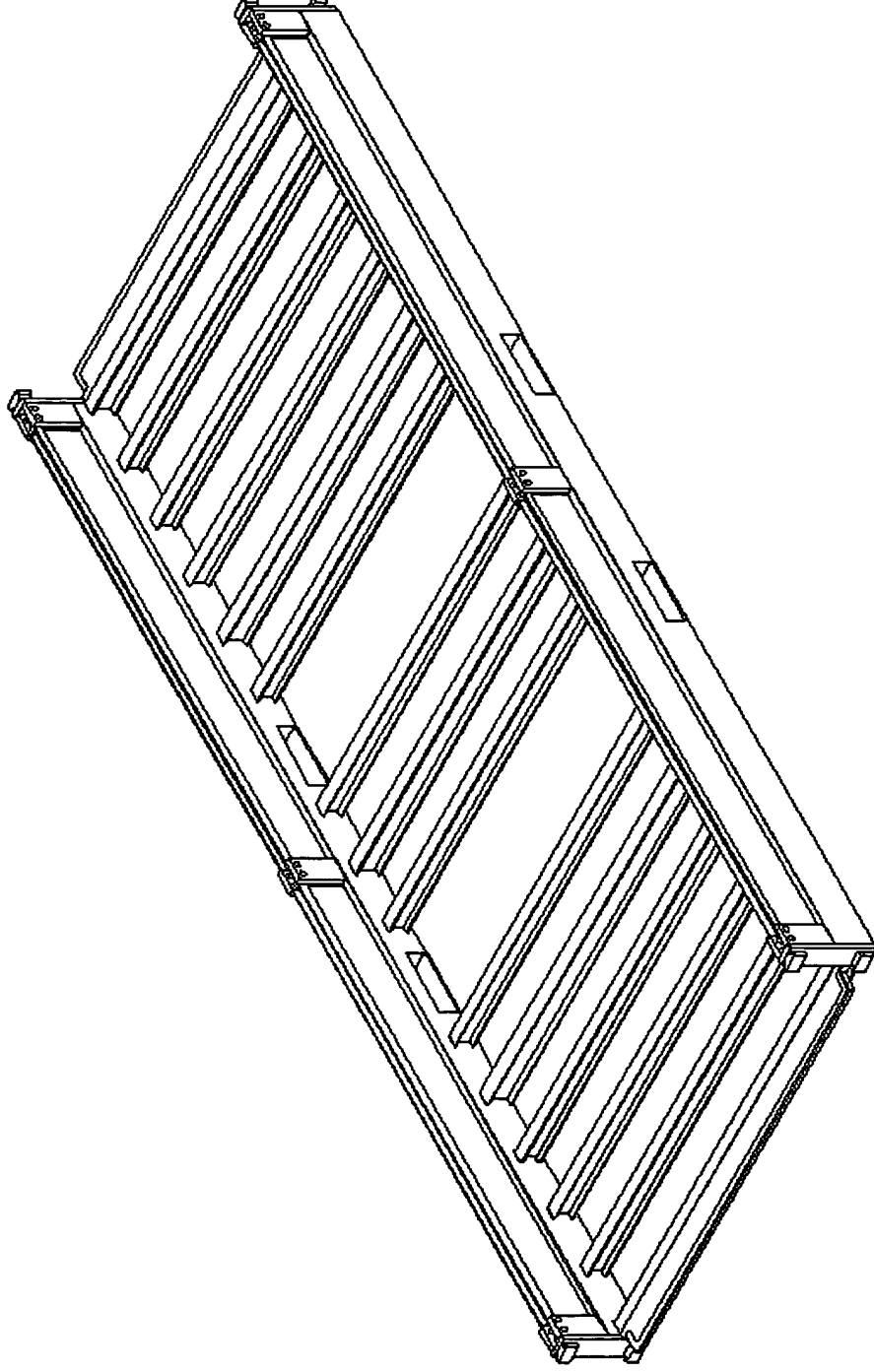


FIG. 6D: Basic isometric view of the floor frame.

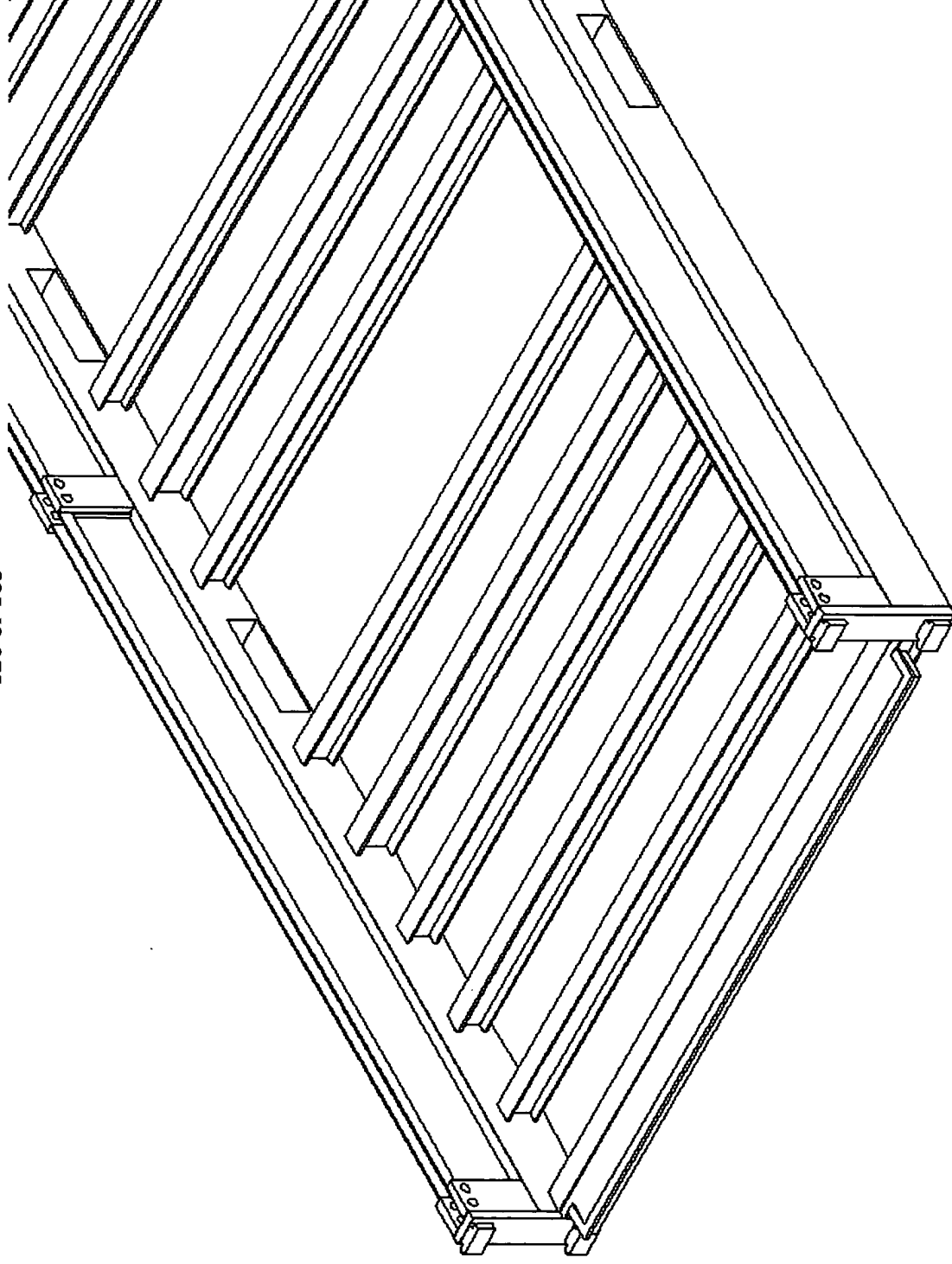


FIG. 12D: Isometric view of the right end of a floor frame.

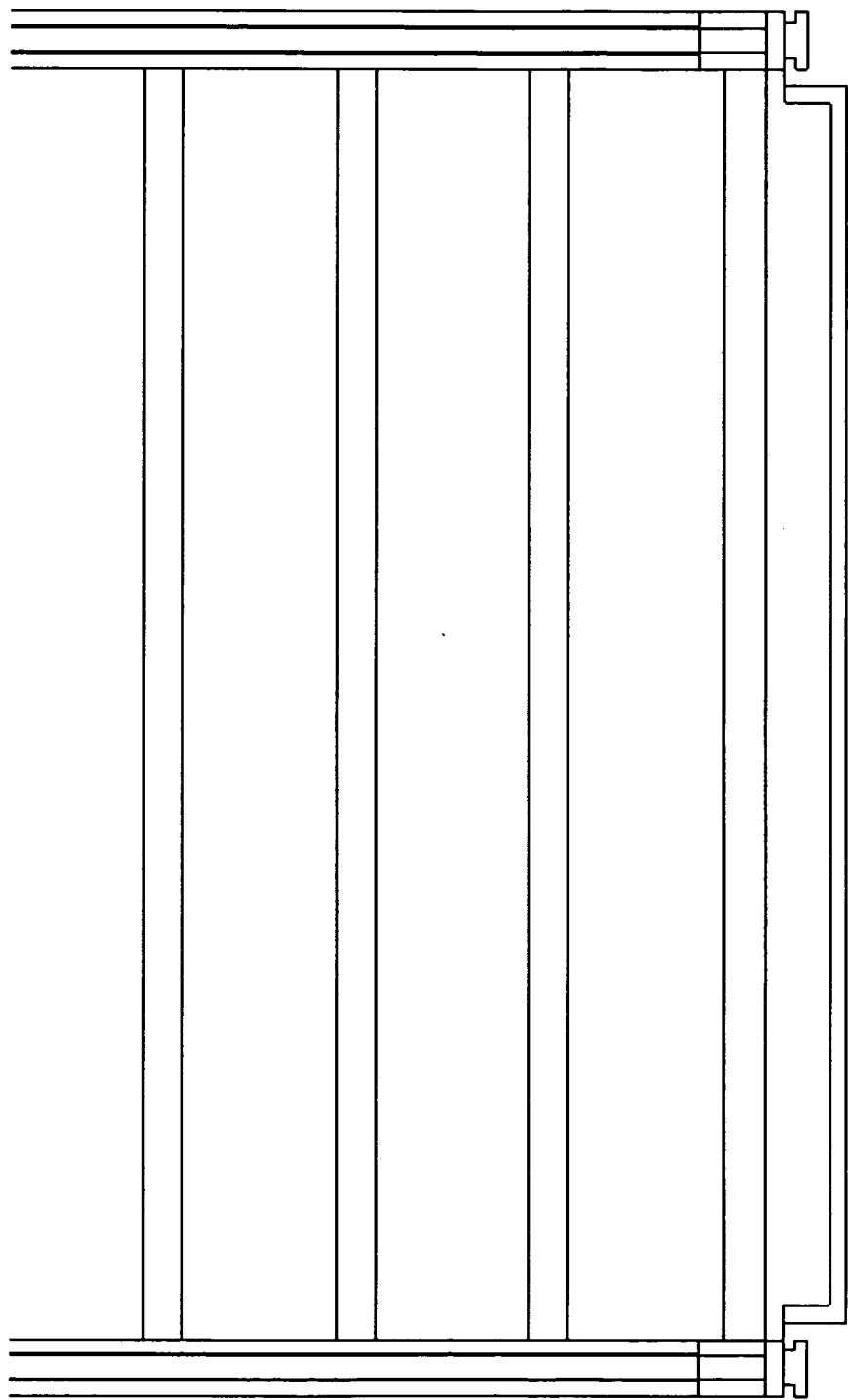


FIG. 13D: Top view of the right end of a floor frame.

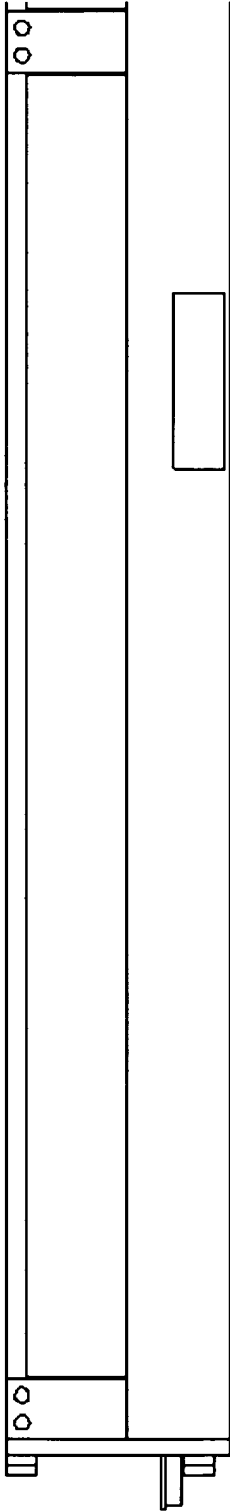


FIG. 14D: Front view of the right end of a floor frame.

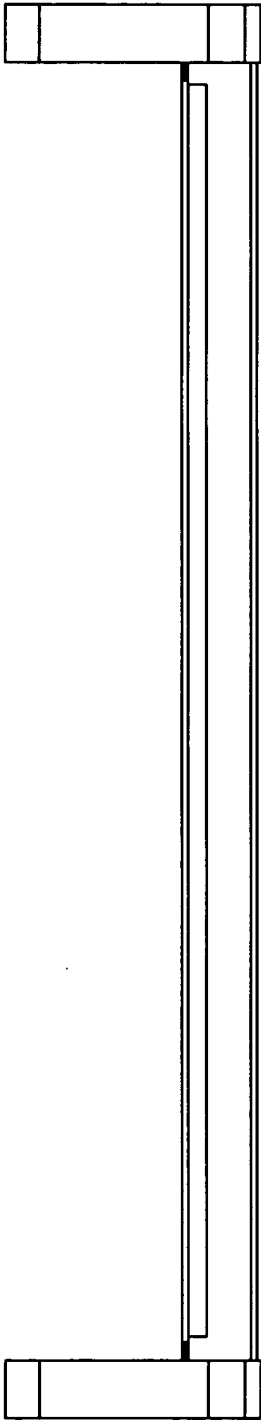


FIG. 15D: Right view of a floor frame.

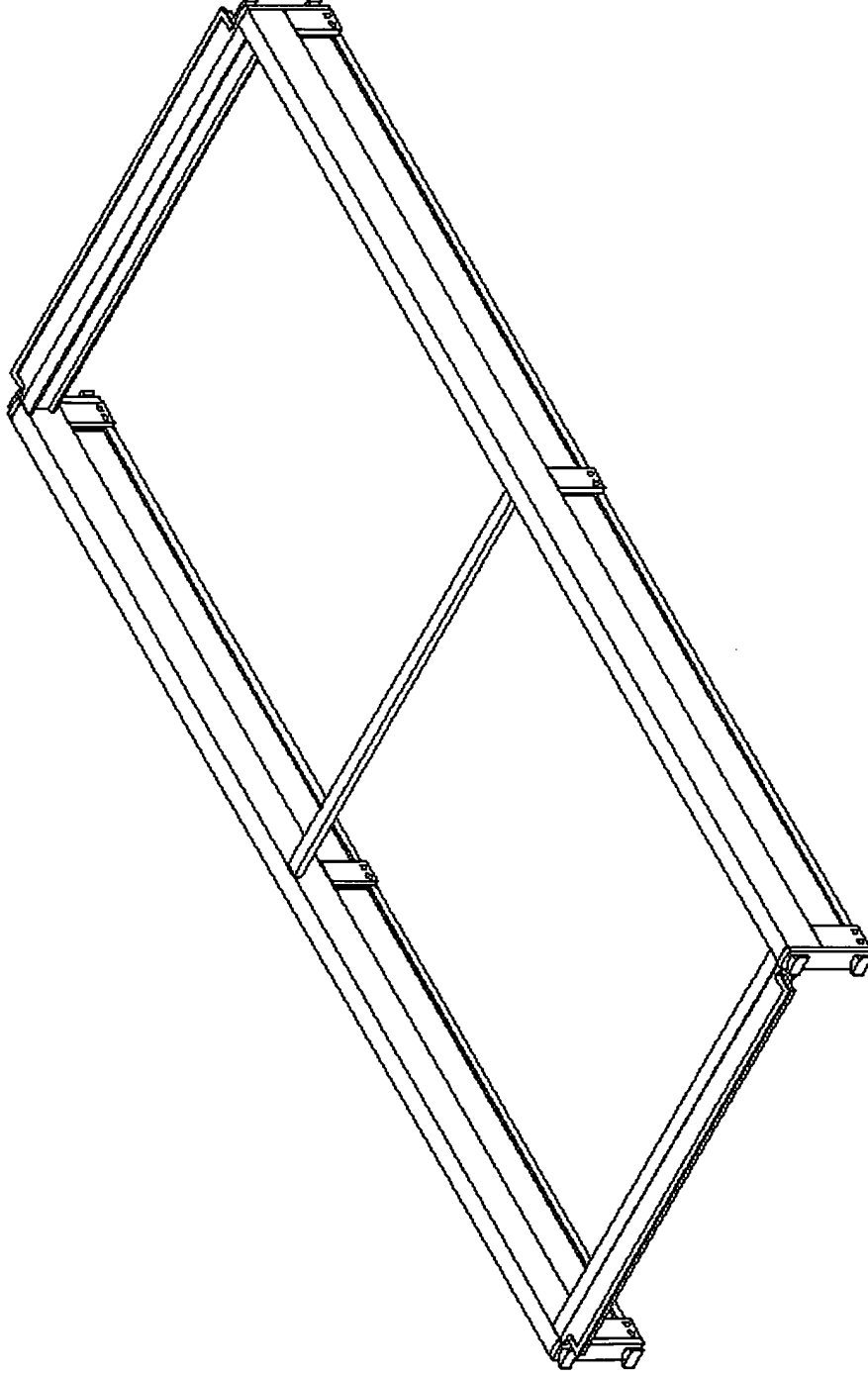


FIG. 16D: Isometric view of a ceiling frame.

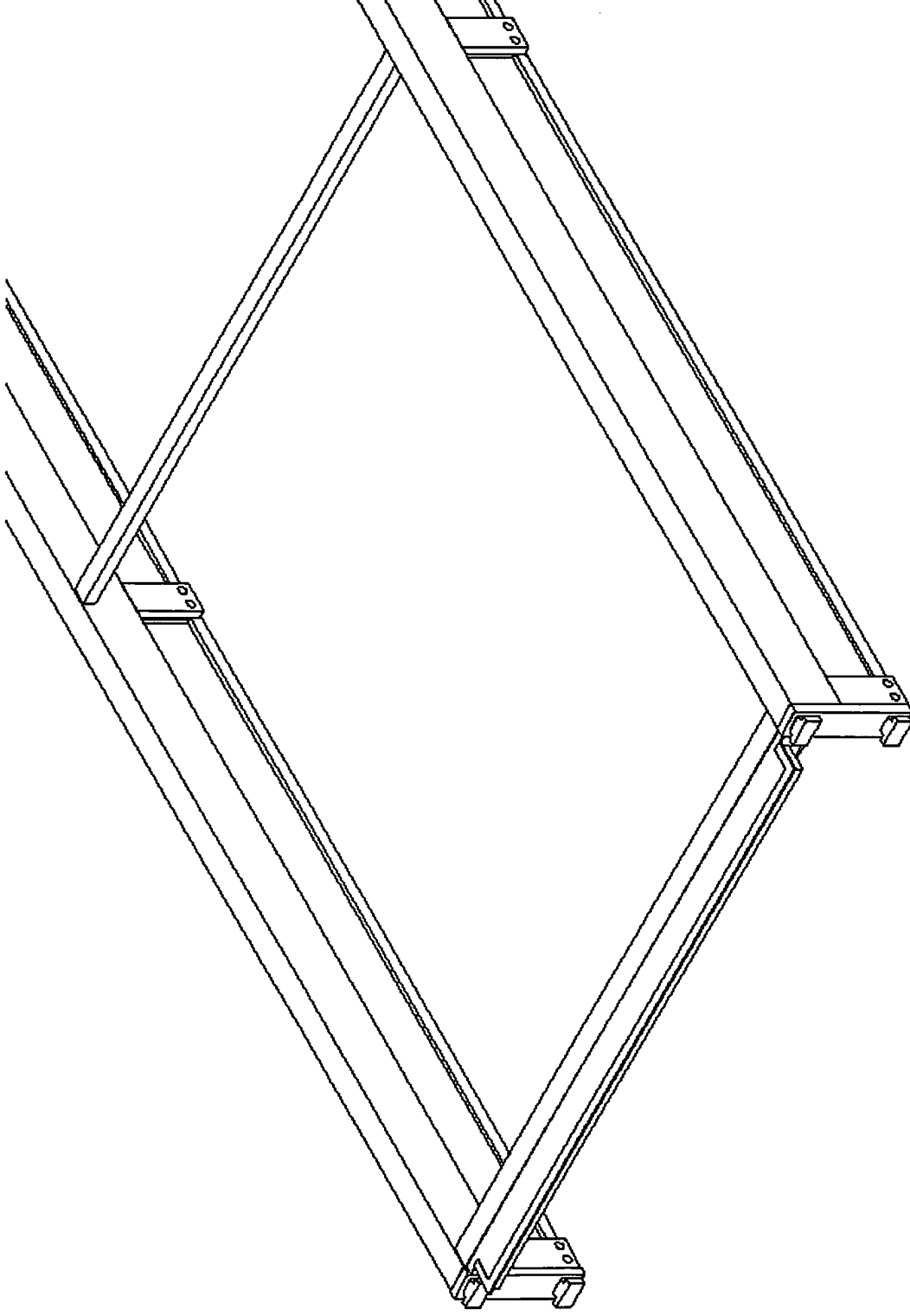


FIG. 21D: Isometric view of the right end of a ceiling frame.

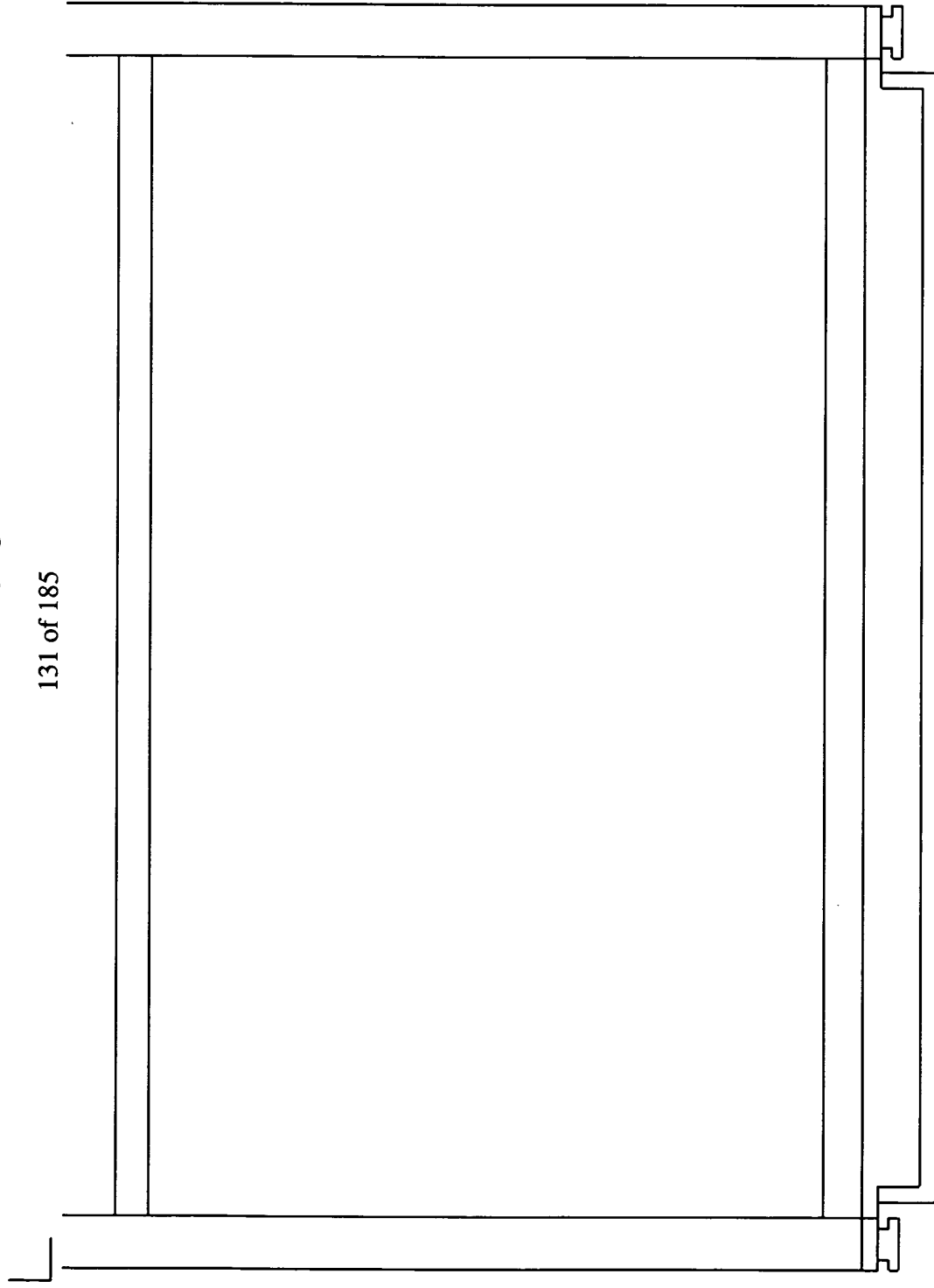


FIG. 22D: Top view of the right end of a ceiling frame.



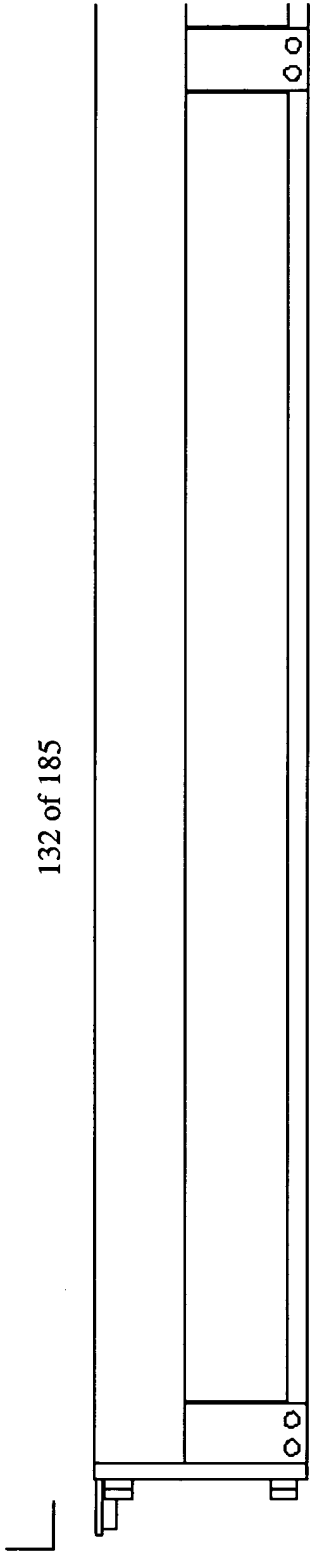


FIG. 23D: Front view of the right end of a ceiling frame.



FIG. 24D: Right view of a ceiling frame.

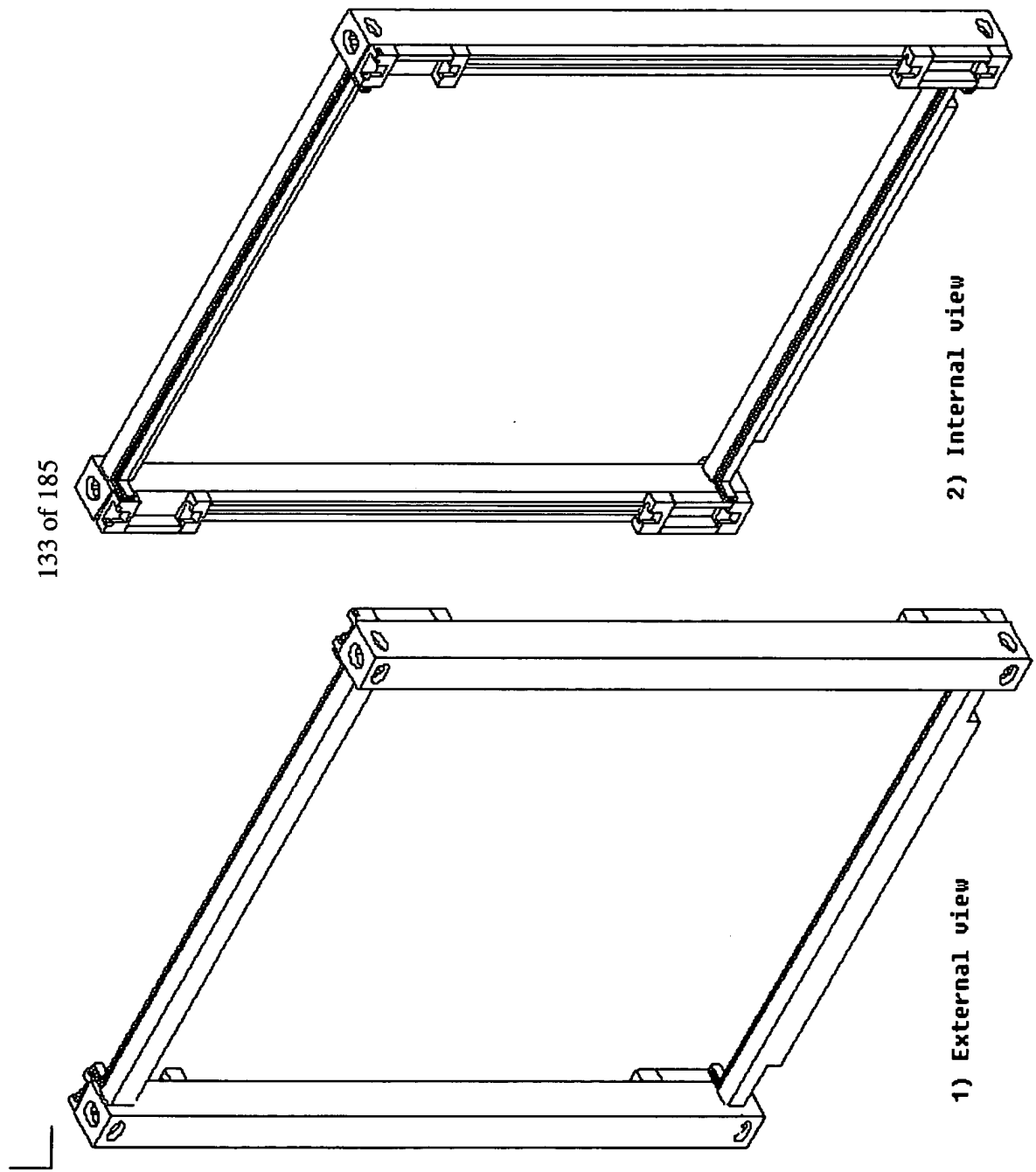


FIG. 25D: Isometric views of a left frame.

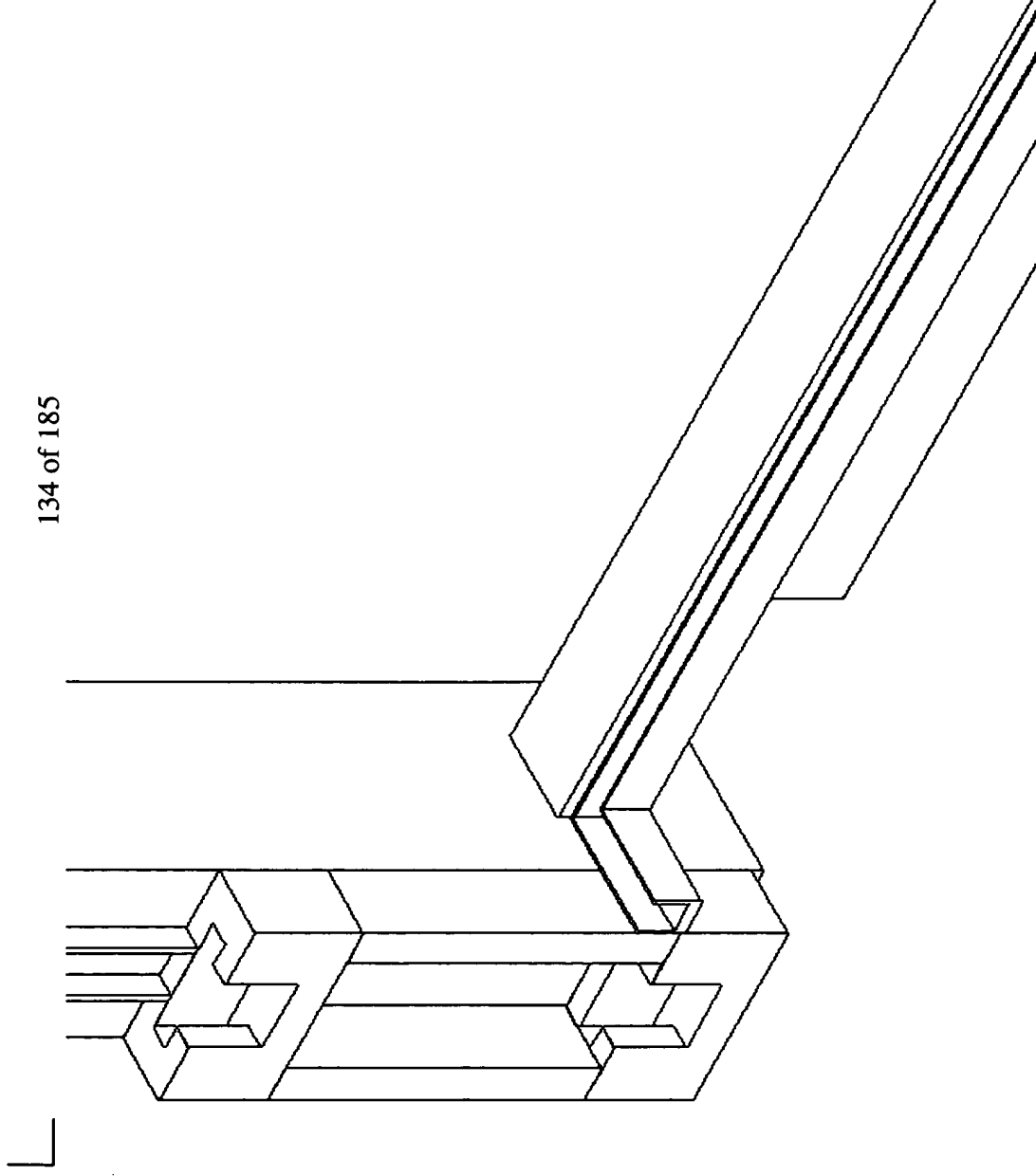


FIG. 26D: Isometric internal view of the corner of a left frame.

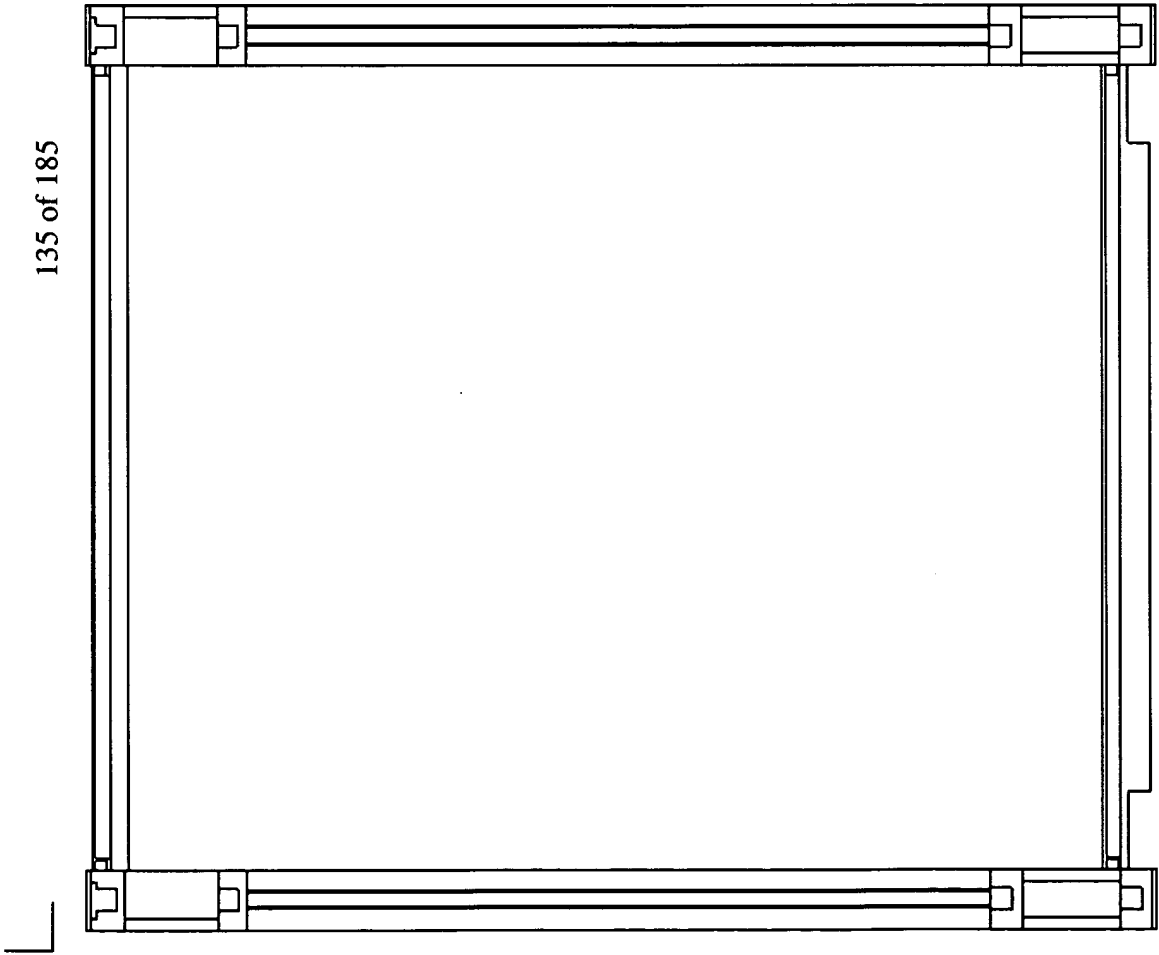


FIG. 27D: Internal view of a left frame.

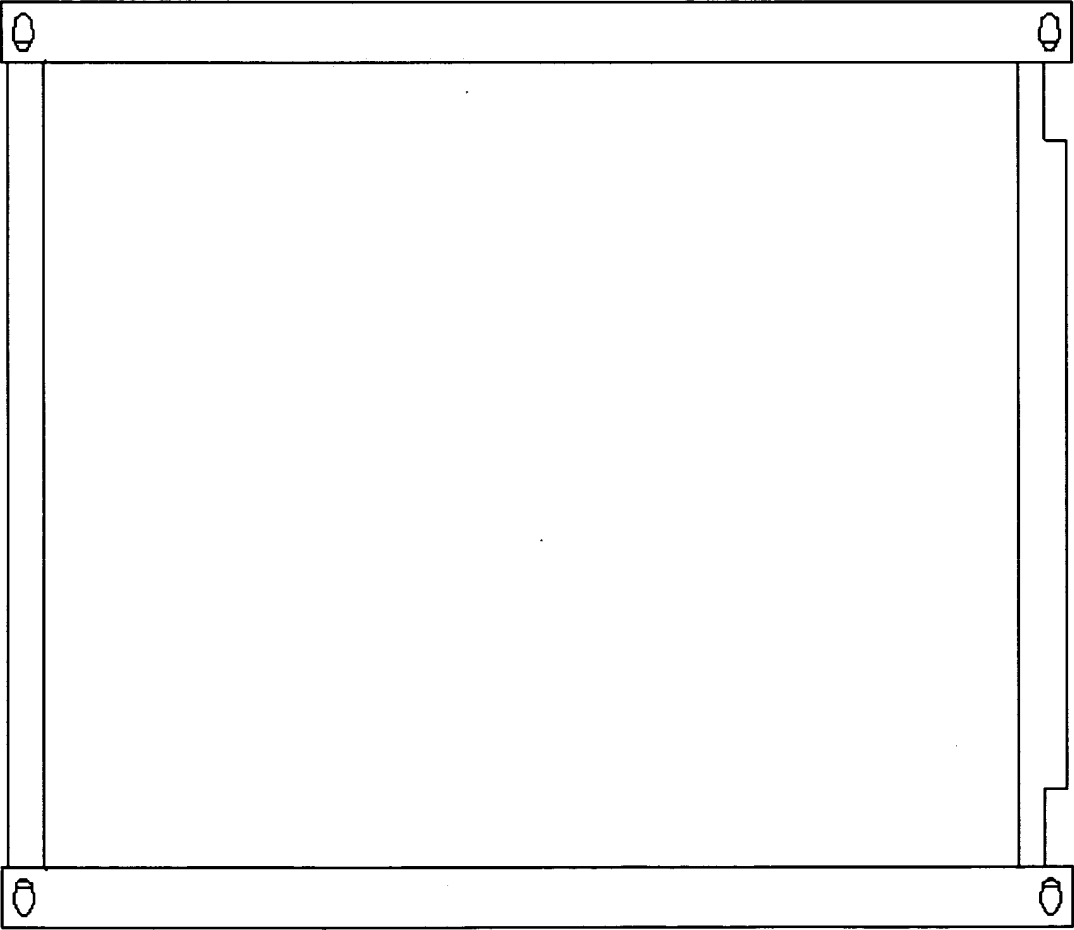


FIG. 28D: External view of a left frame.

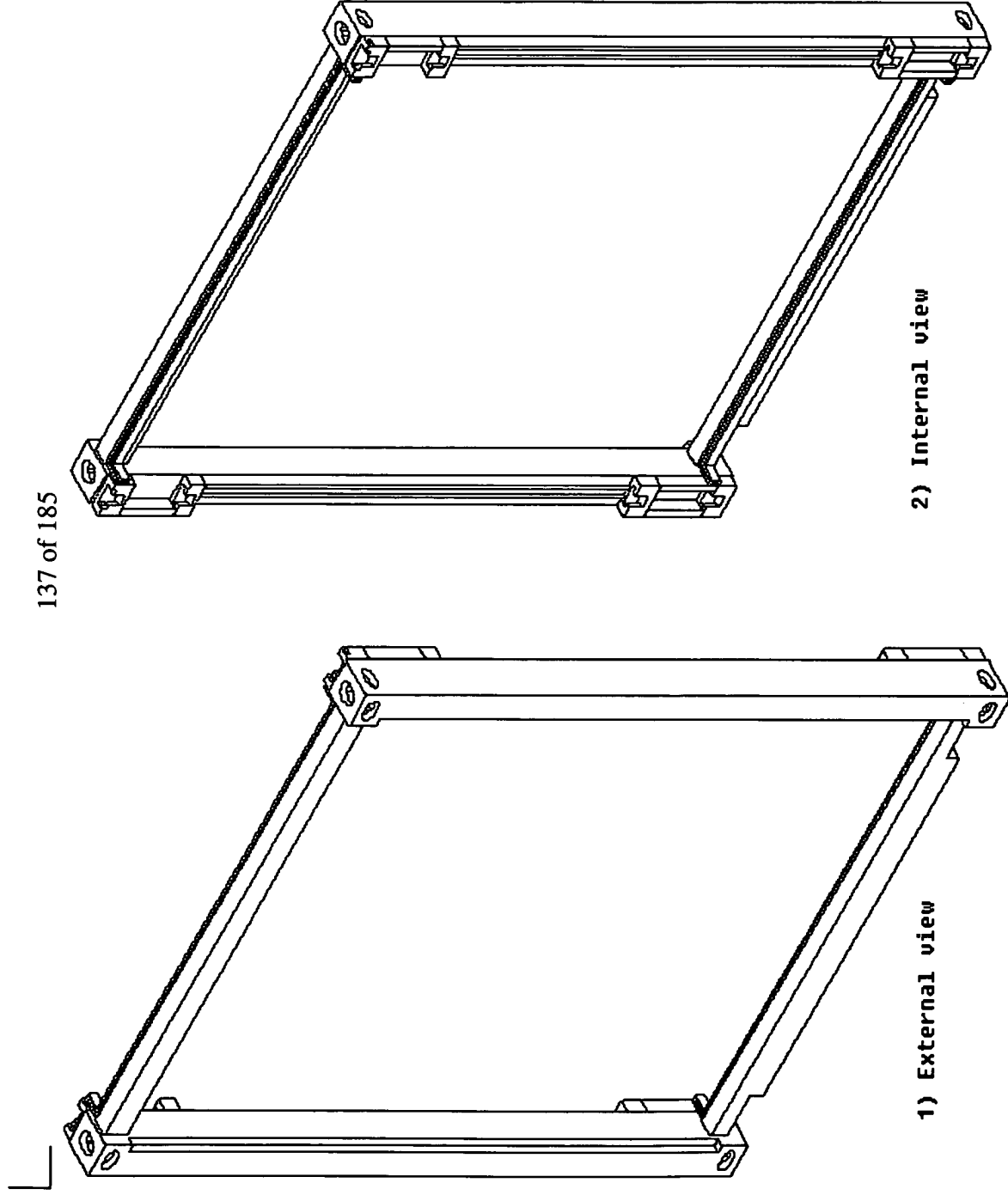


FIG. 29D: Isometric views of a right frame.

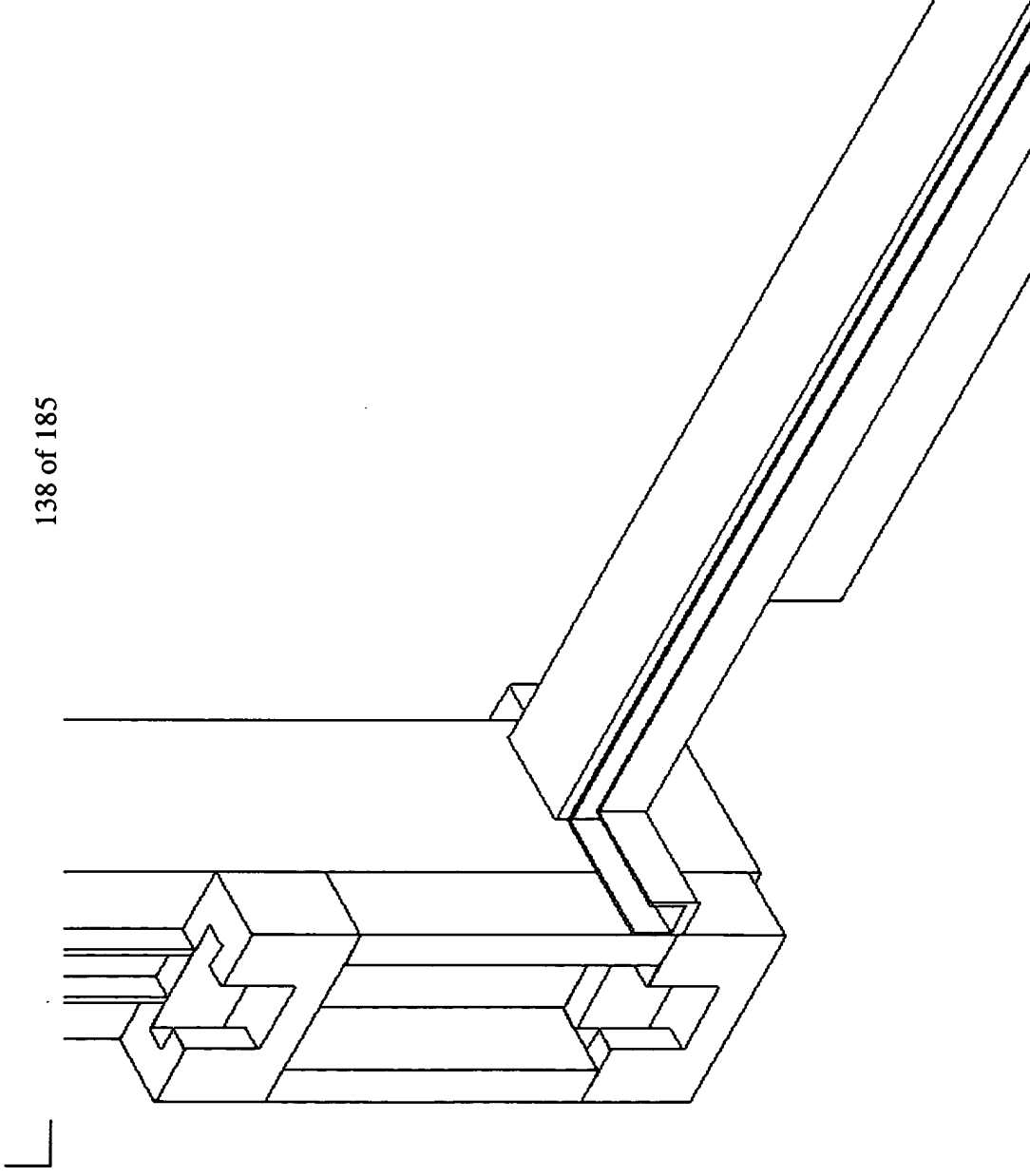


FIG. 30D: Isometric internal view of the corner of a right frame.

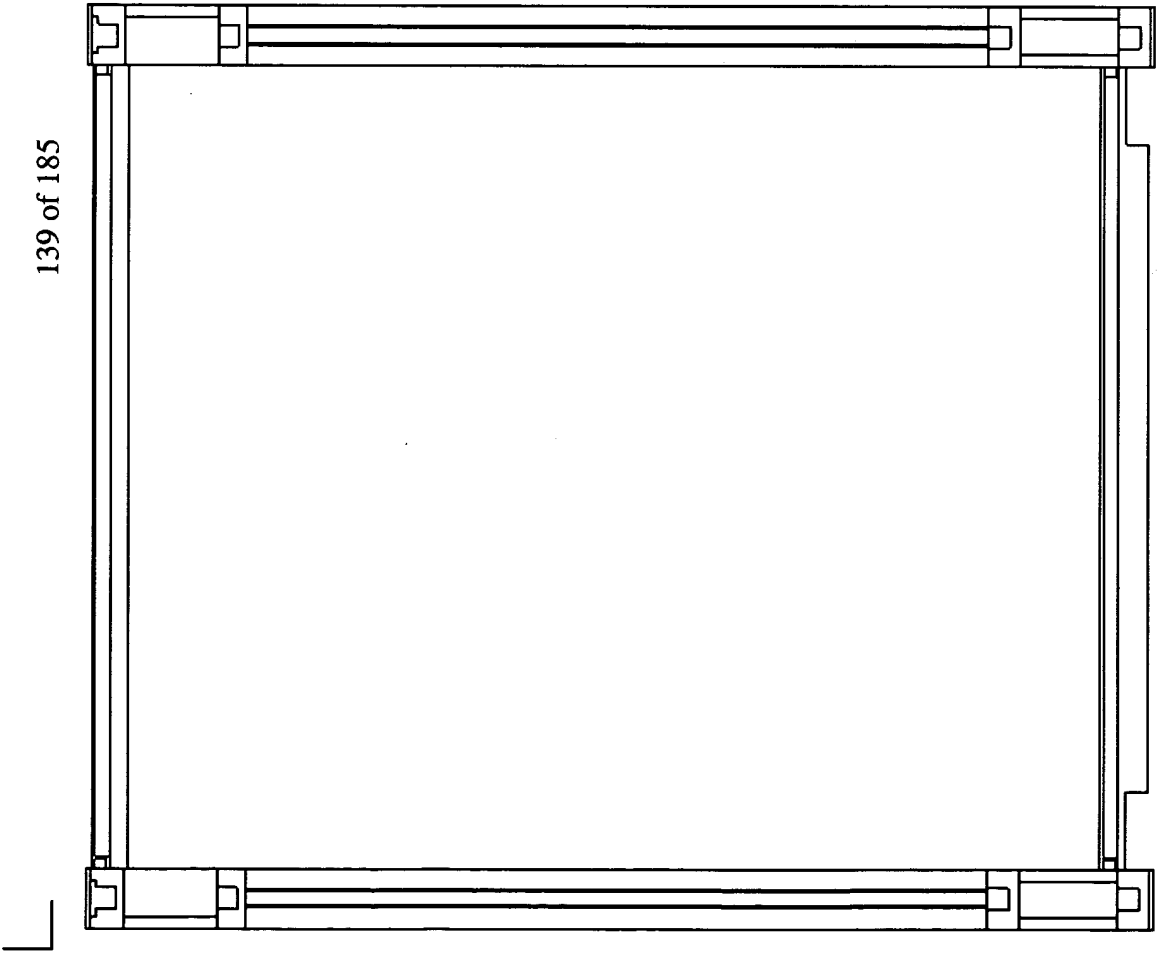


FIG. 31D: Internal view of a right frame.

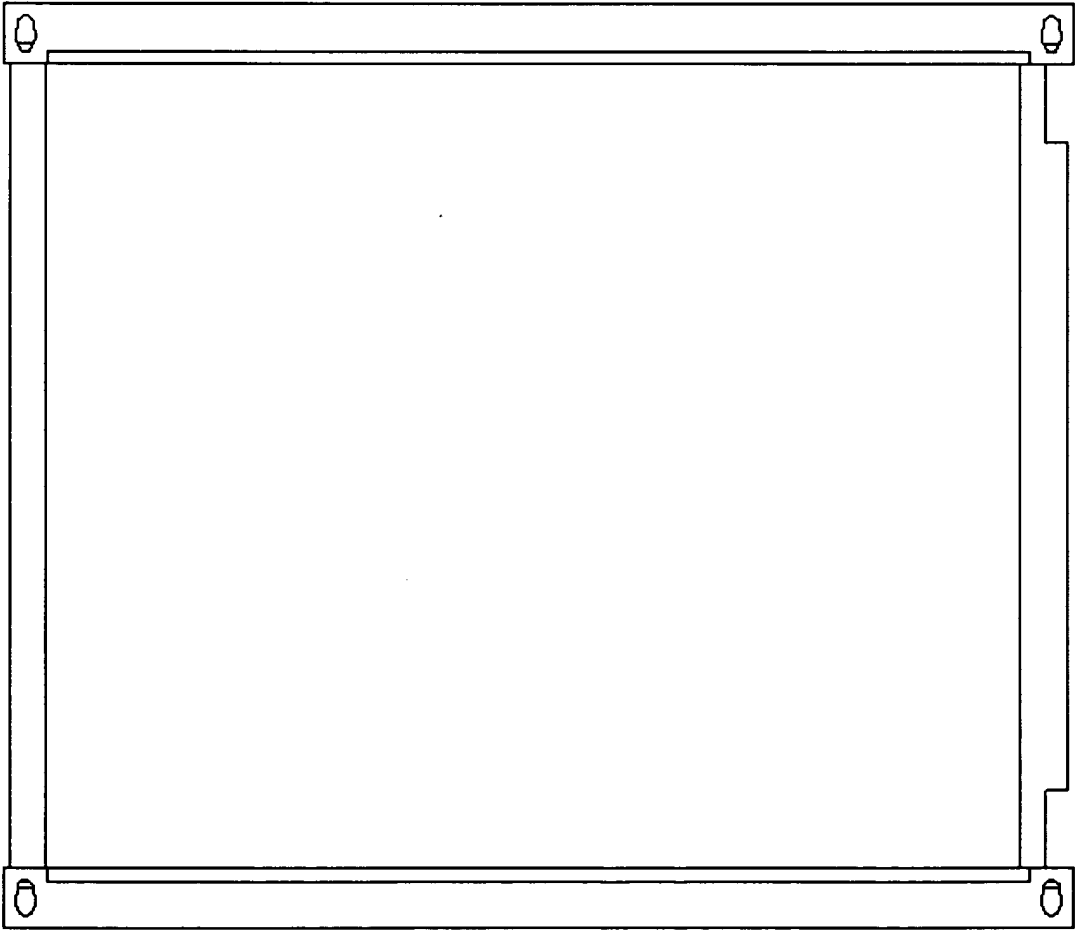


FIG. 32D: External view of a right frame.

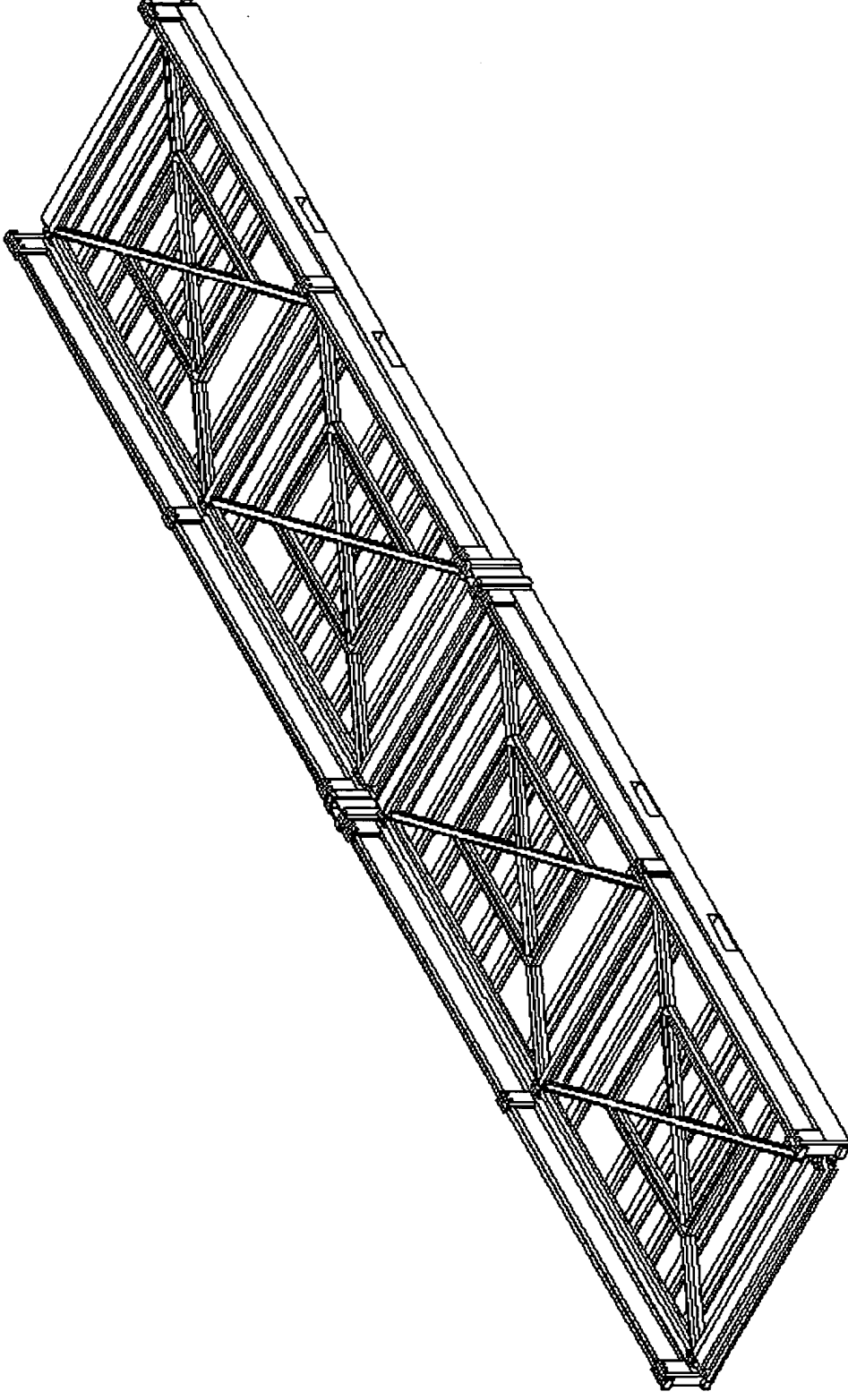


FIG. 35D: Isometric view of connected floor frames that contains two front frames and two back frames.

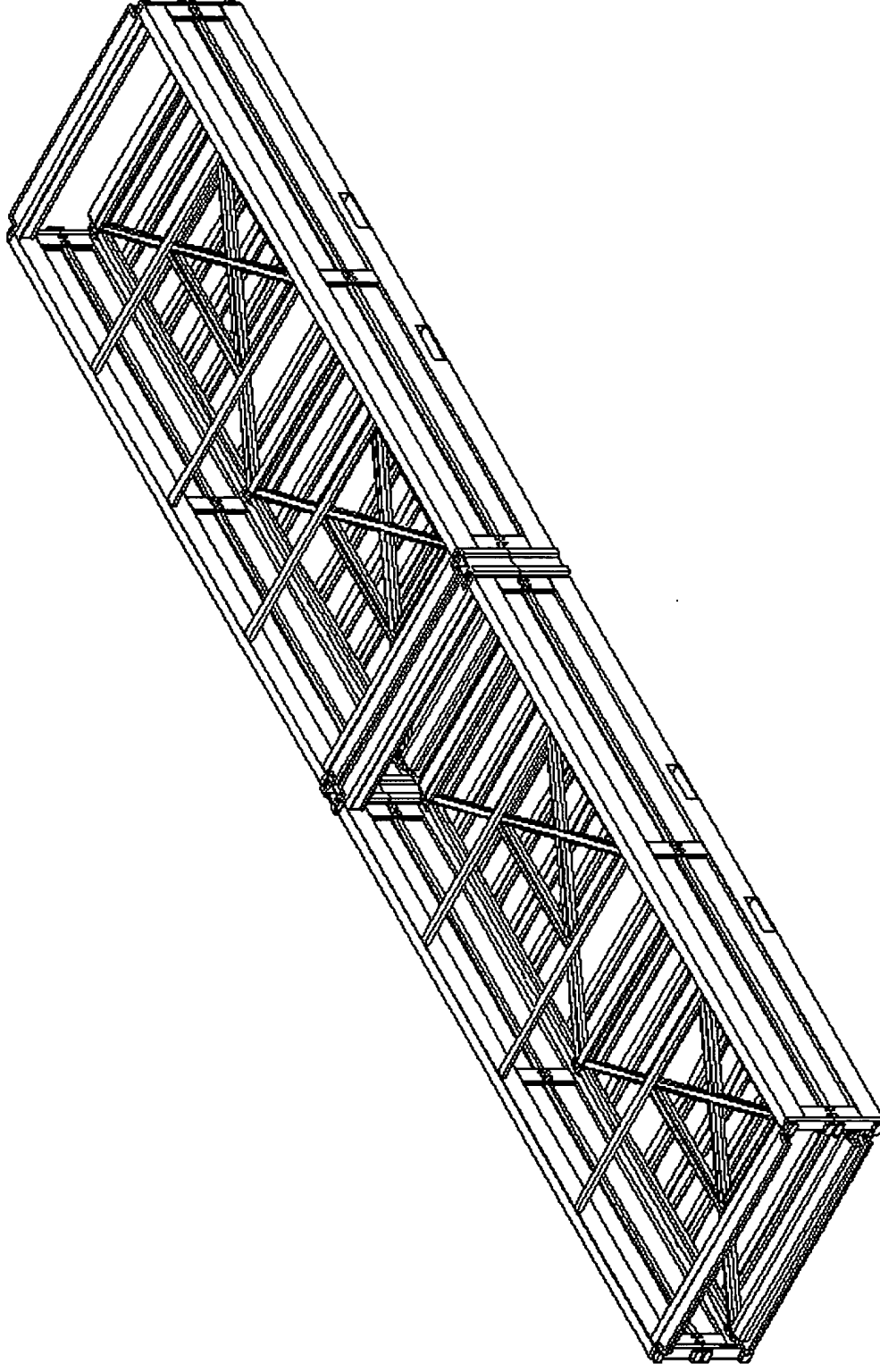


FIG. 36D: Isometric view of connected ceiling frames stacked on top of connected floor frames.

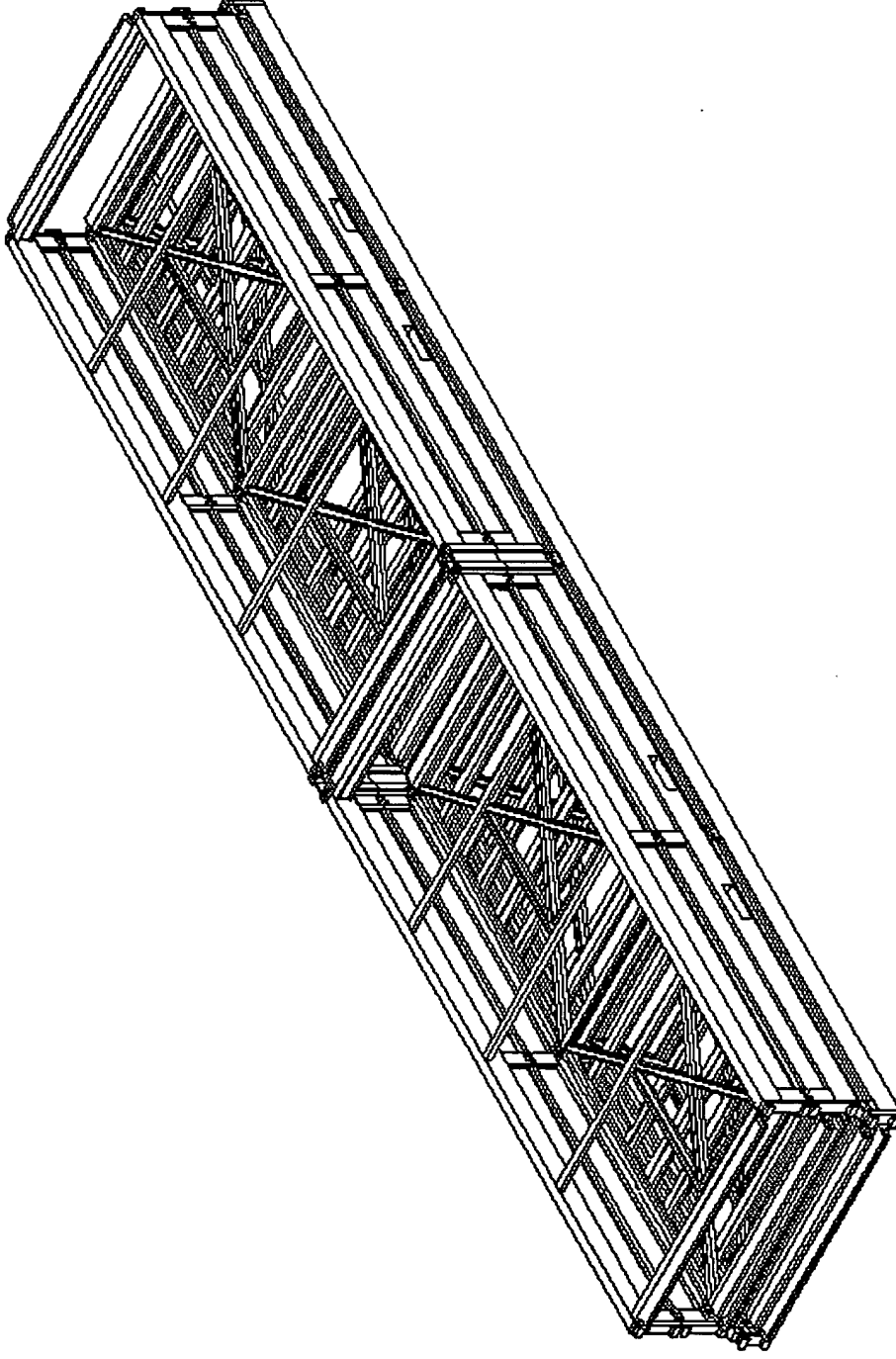


FIG. 41D: Step2 of disassemble and load process.

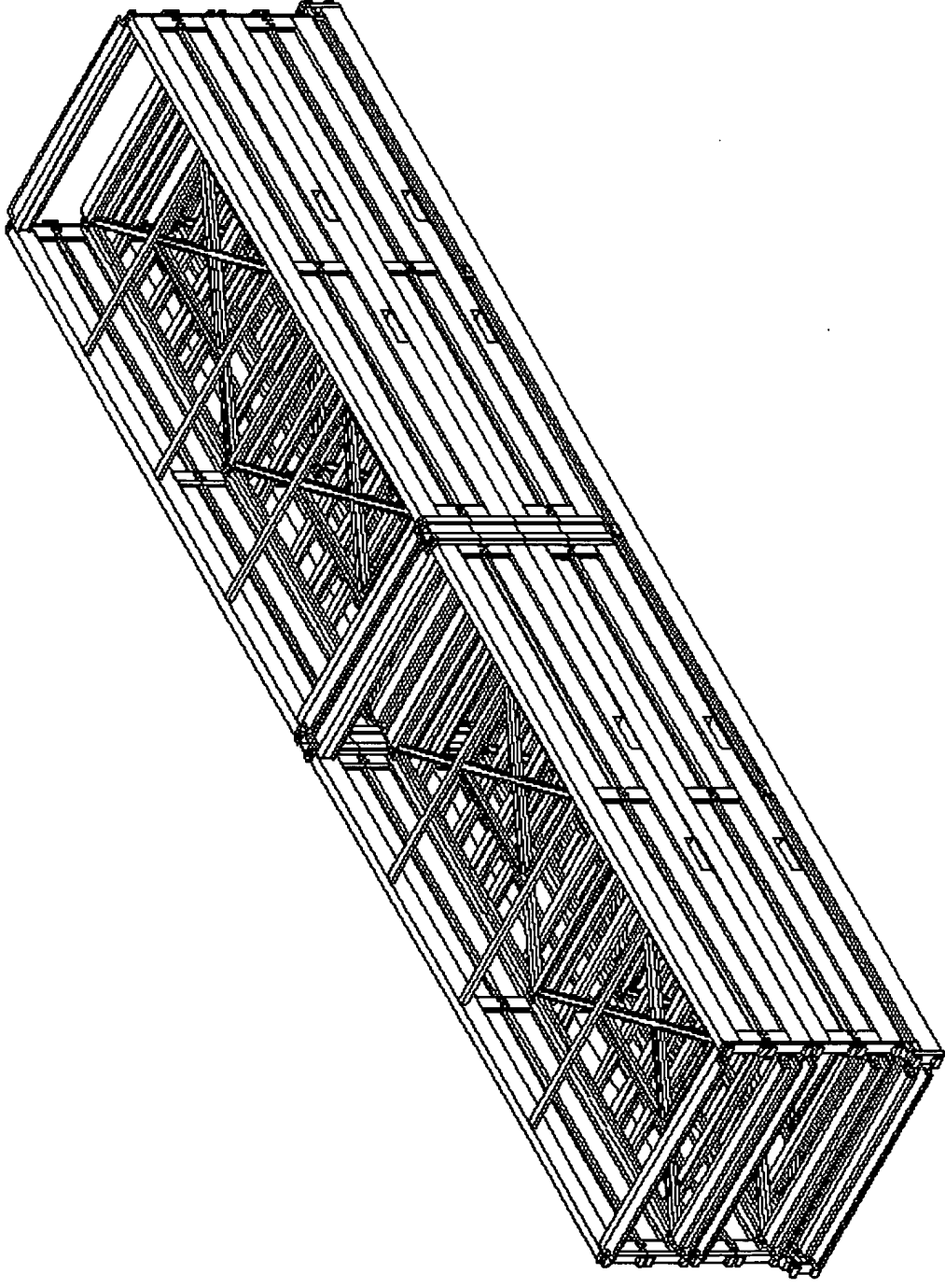


FIG. 42D: Step3 of disassemble and load process.

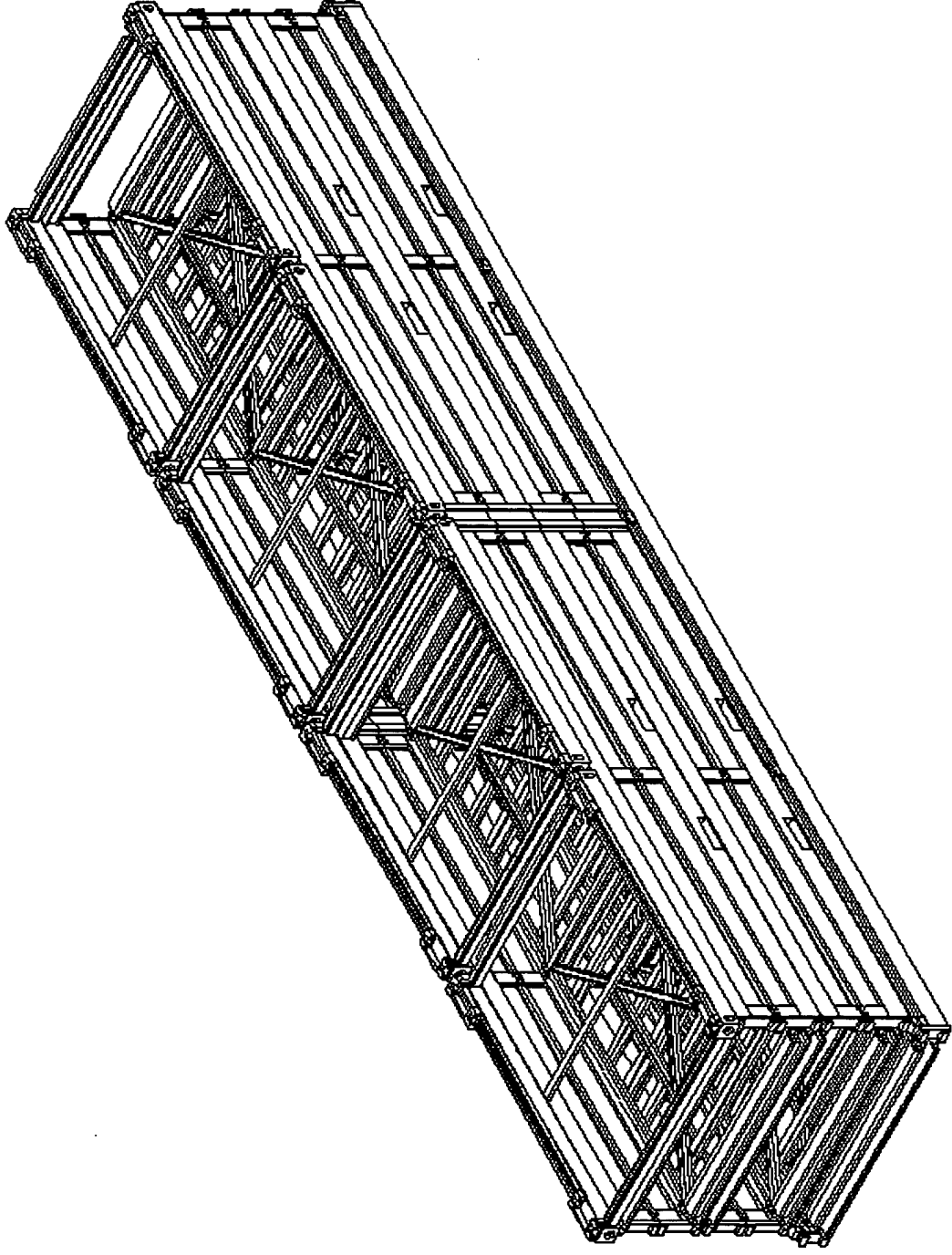


FIG. 43D: Step4 of disassemble and load process.

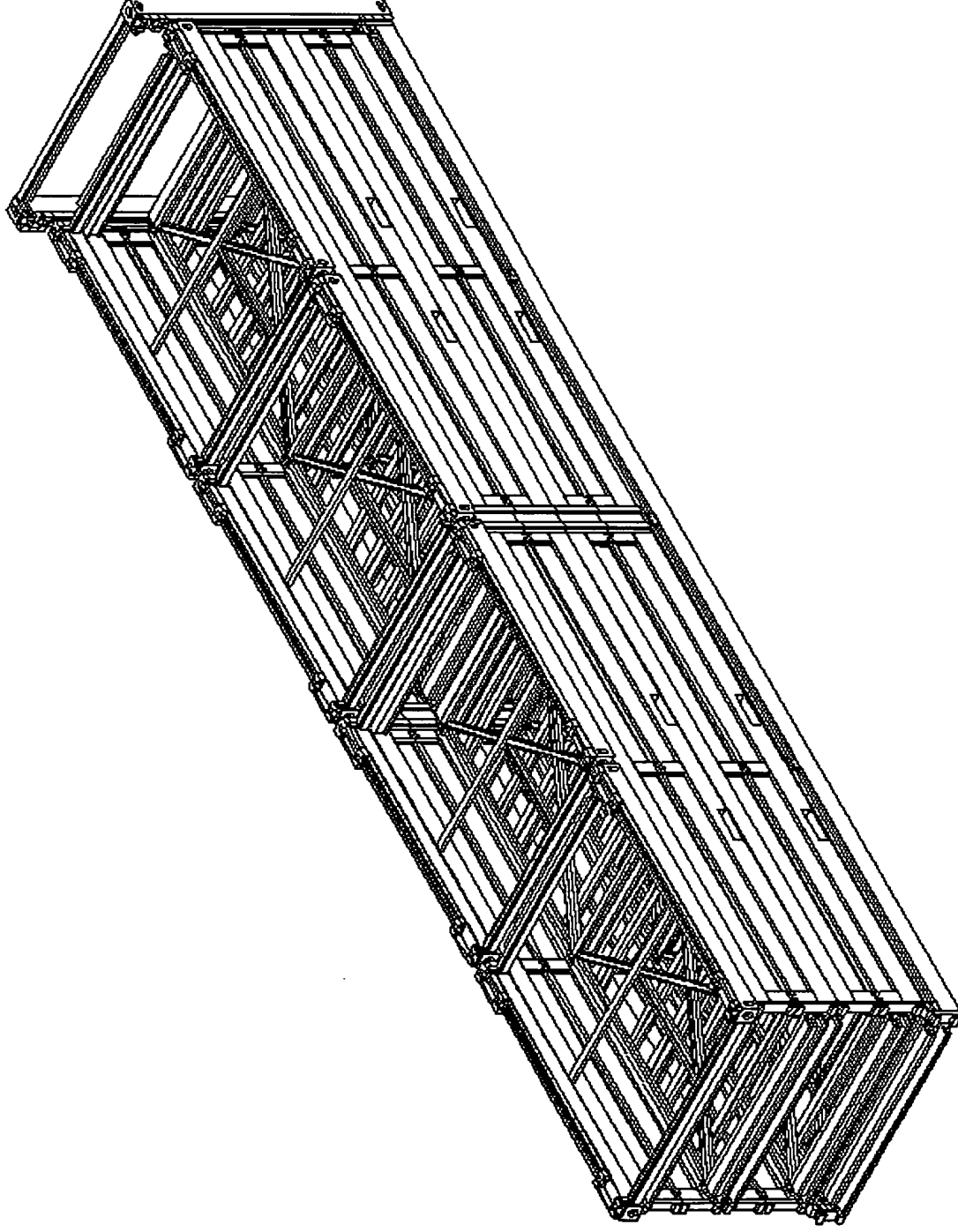


FIG. 44D: Step5 of disassemble and load process.

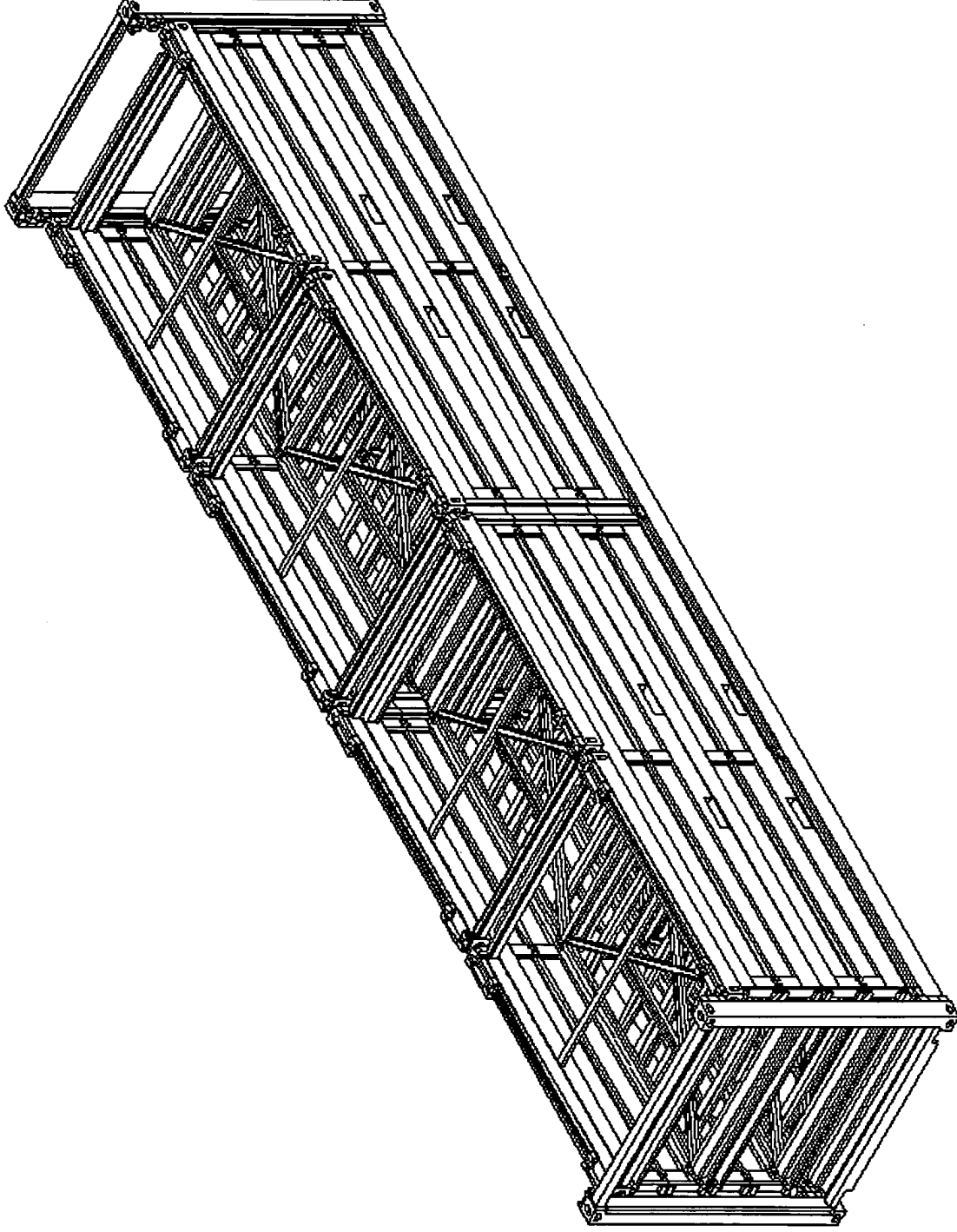


FIG. 45D: Step6 of disassemble and load process.

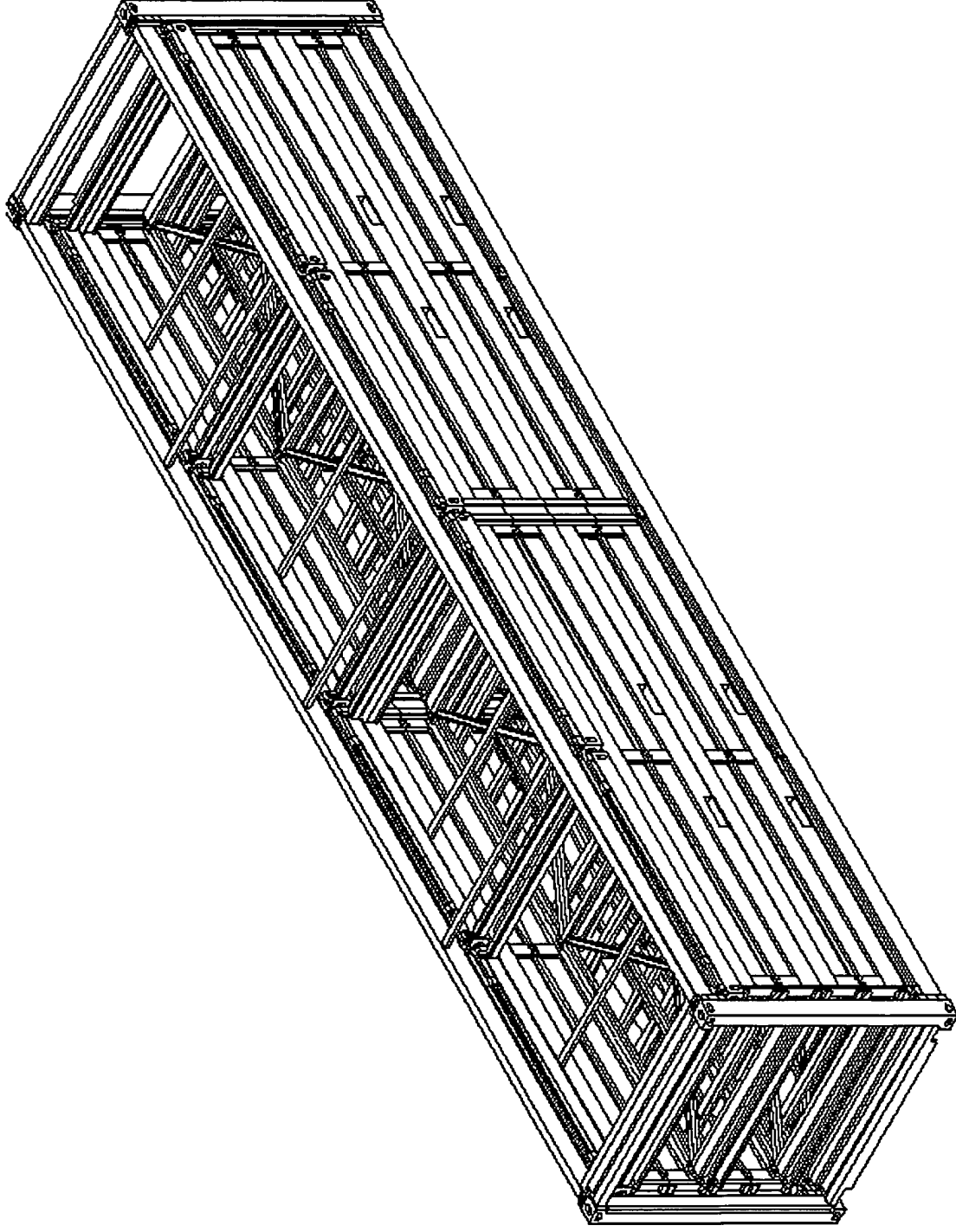


FIG. 46D: Step7 of disassemble and load process.

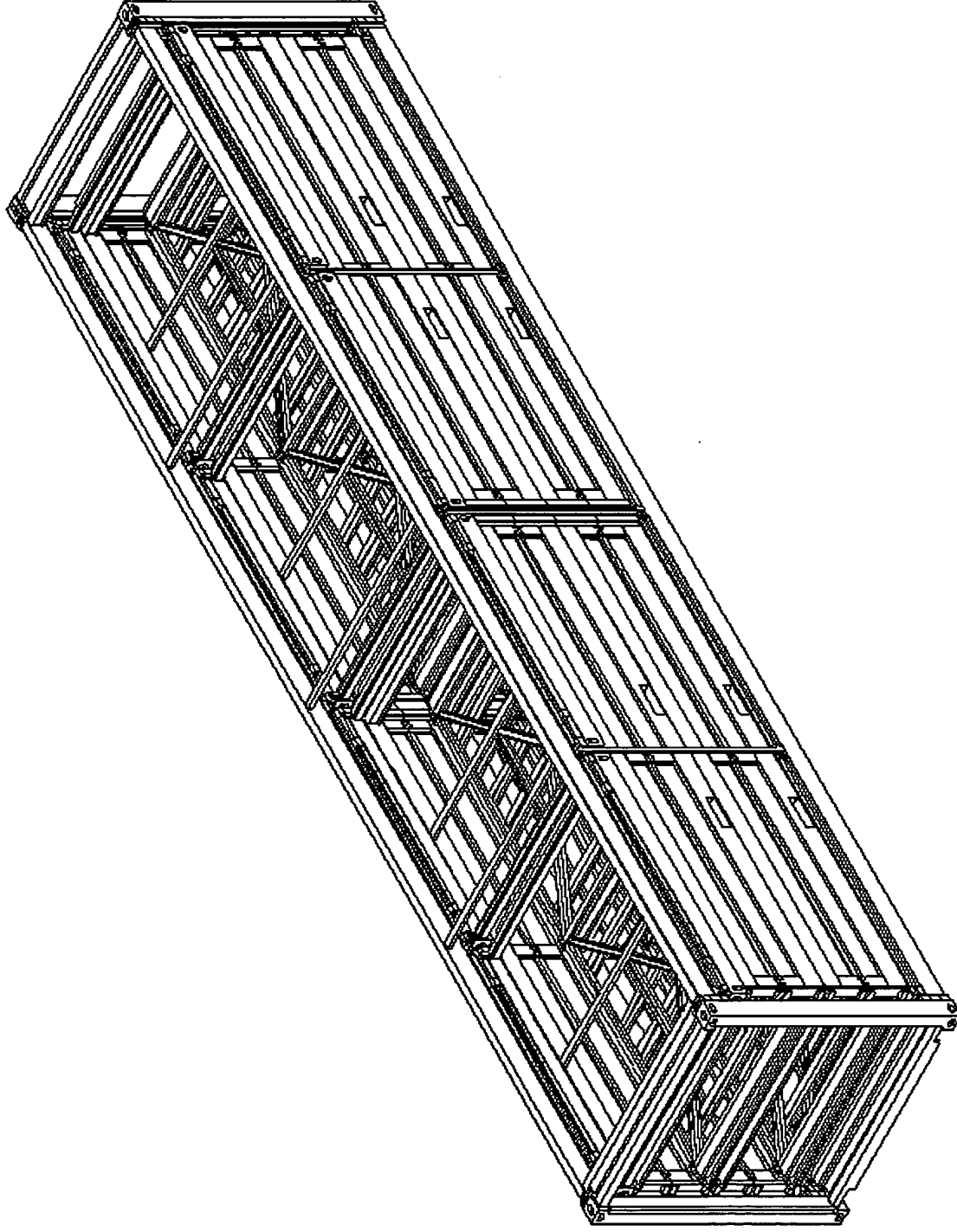


FIG. 47D: Step8 of disassemble and load process.

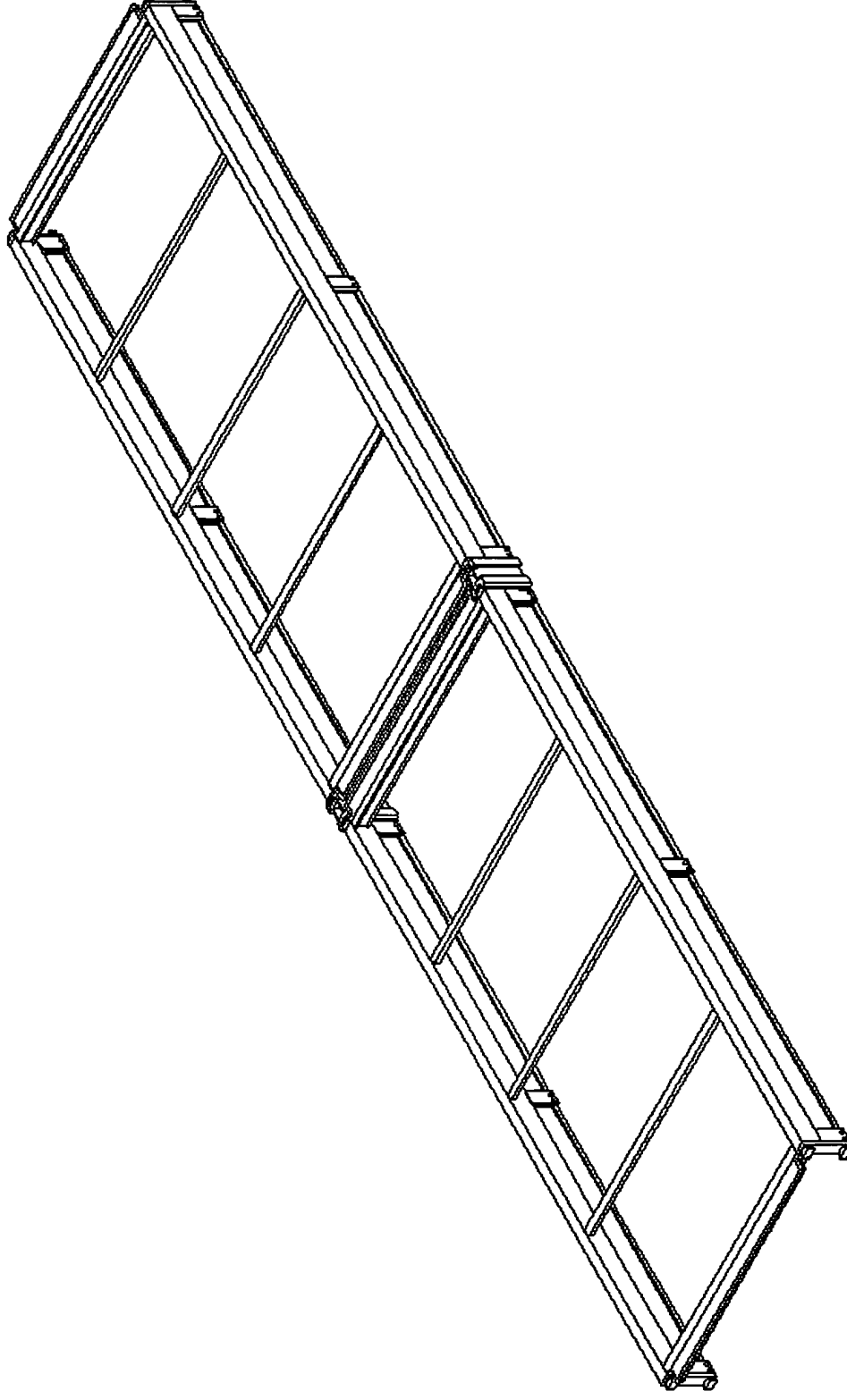


FIG. 49D: Two connectors connect two ceiling frame panels during the shipping process.

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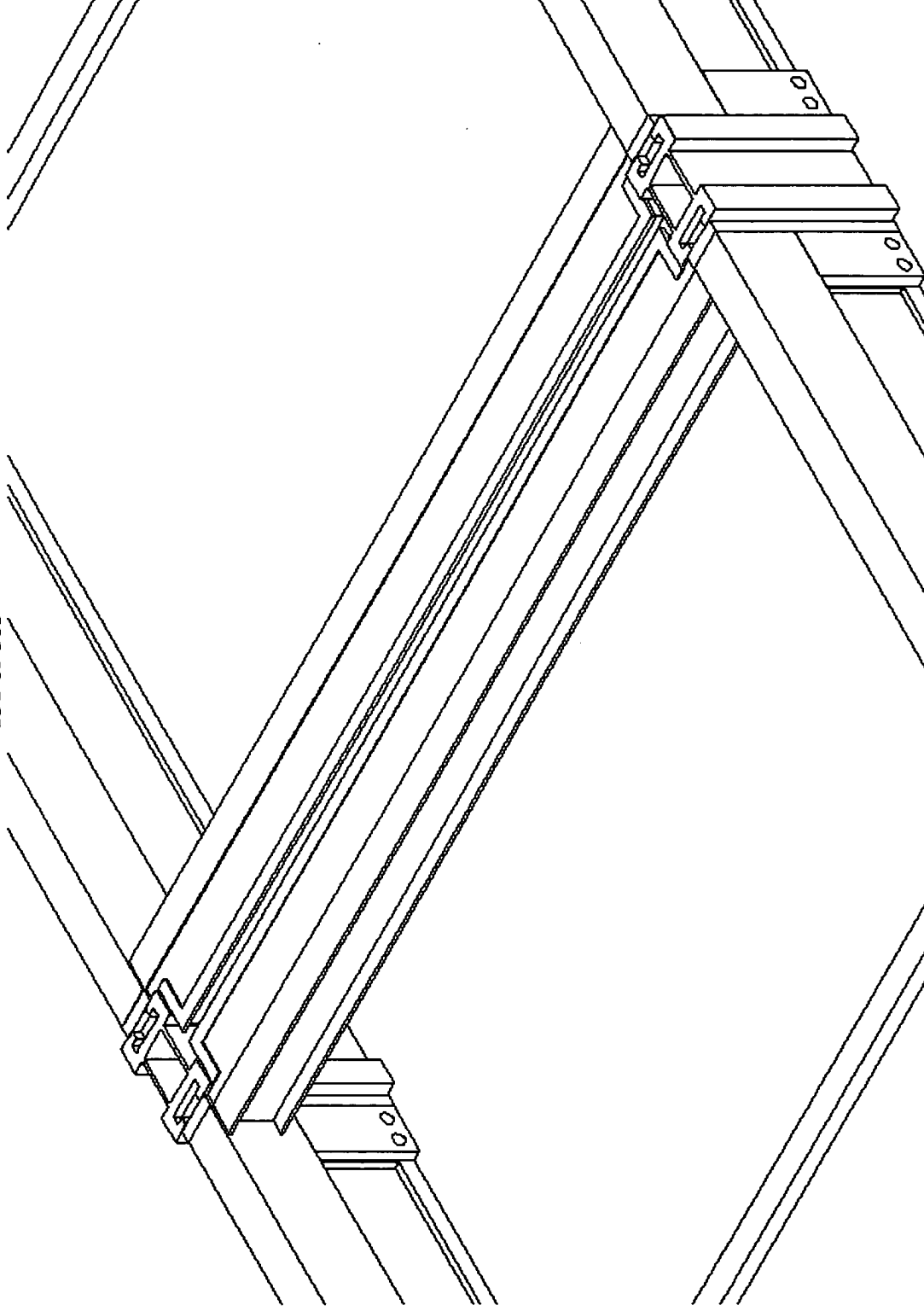


FIG. 50D: Detail view based on FIG. 49D.

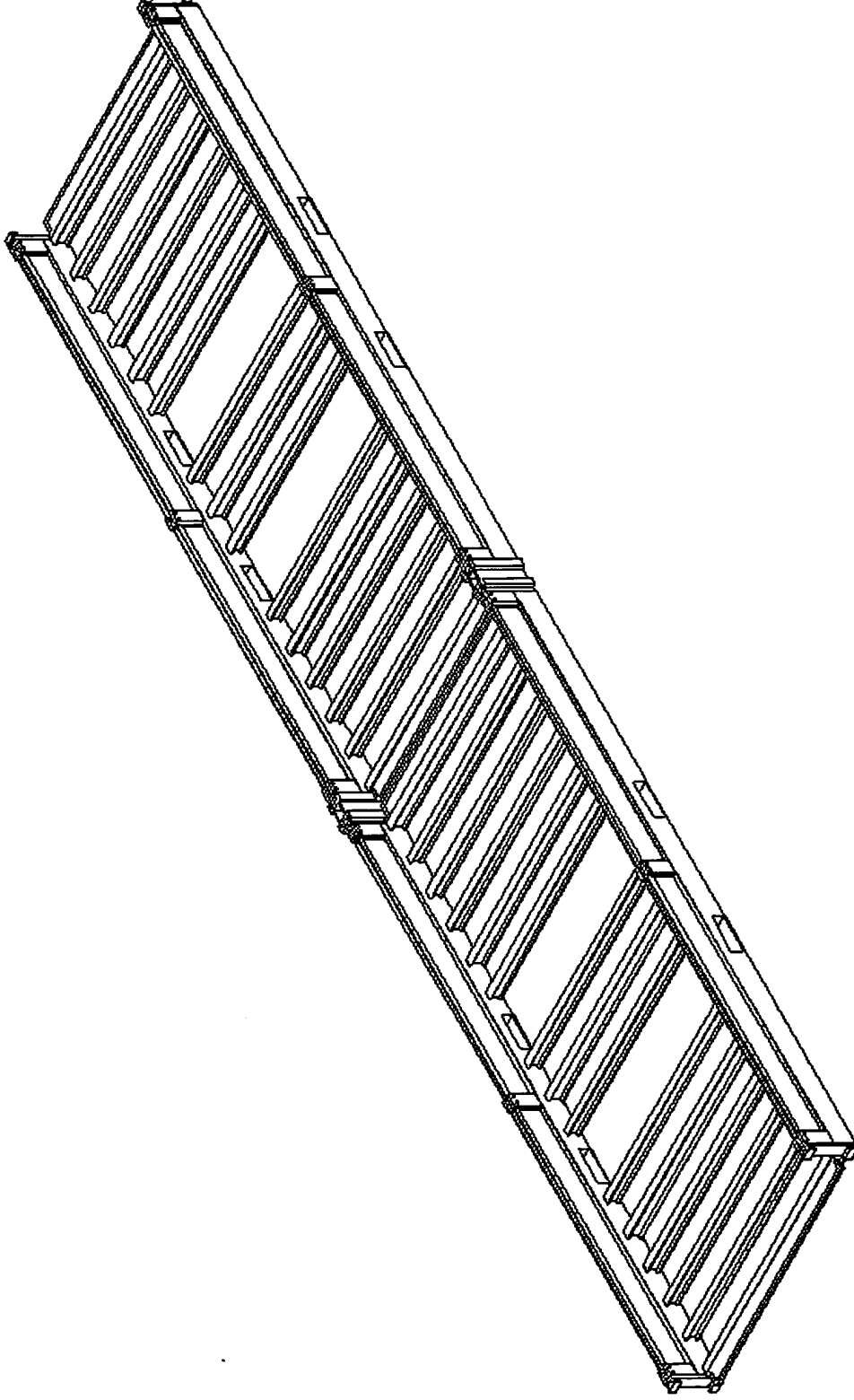


FIG. 51D: Two connectors connect two floor frame panels during the shipping process..

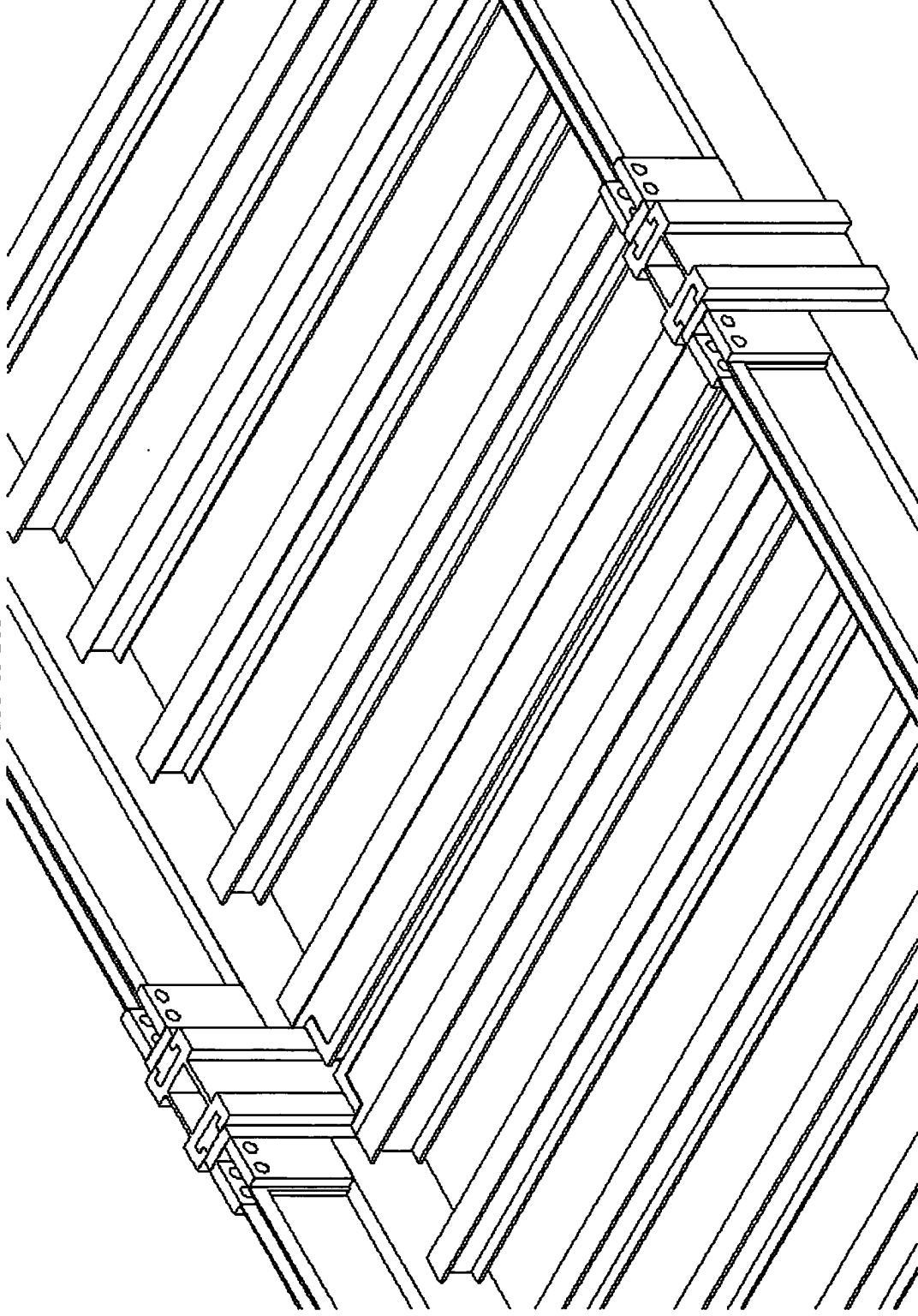


FIG. 52D: Detail view based on FIG. 51D.

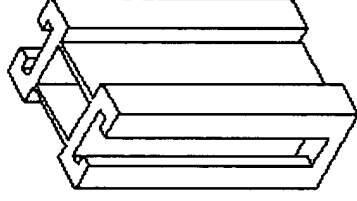
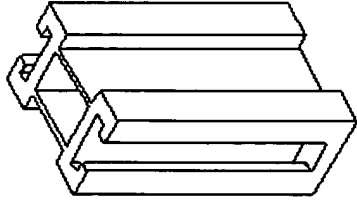


FIG. 53D: Two connectors used to connect two floor frame panels as well as two ceiling frame panels.

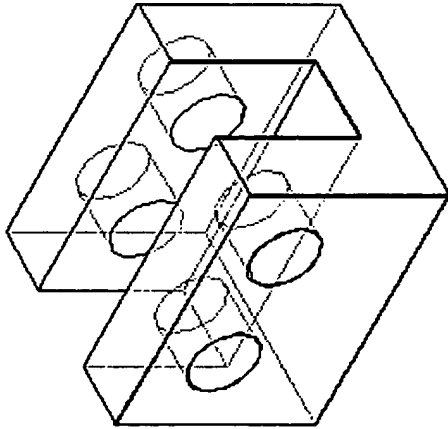


FIG. 54 The female pin base connector on the floor and ceiling frames

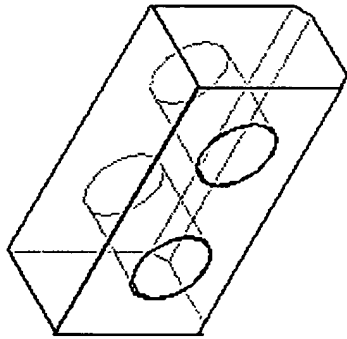


FIG. 55 The male pin base connector on the front and back frames

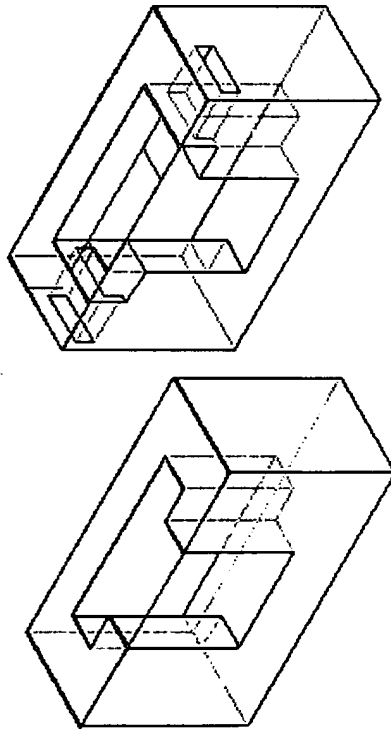


FIG. 56 The joint T pin holders on the left and right frame columns

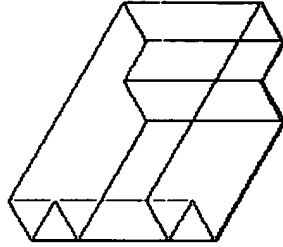


FIG. 57 The joint T pin on the floor and ceiling frames

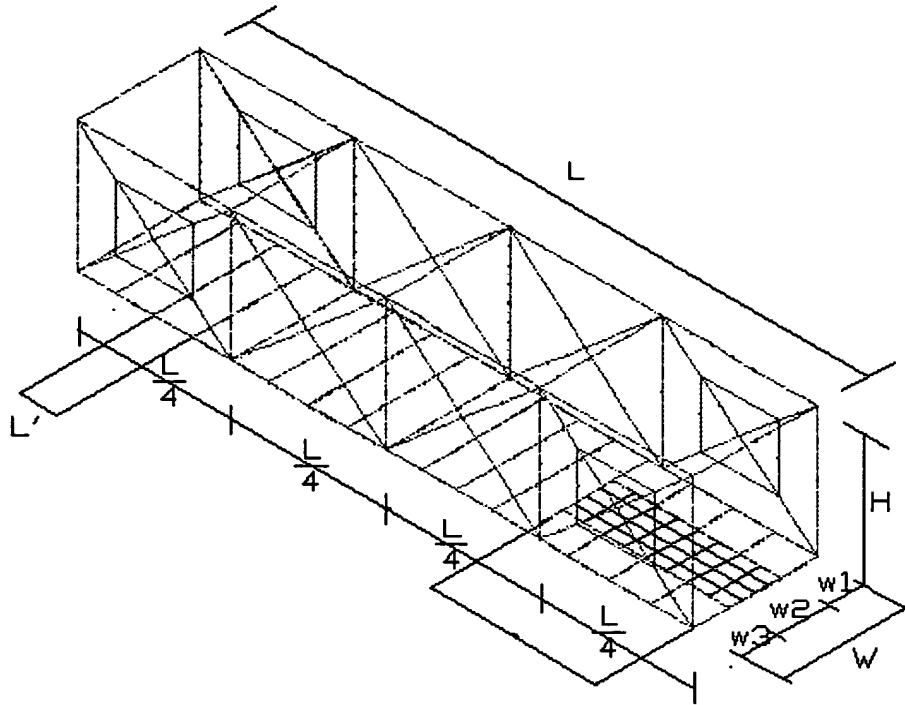


FIG. 58A/B: The frame panel structure model.

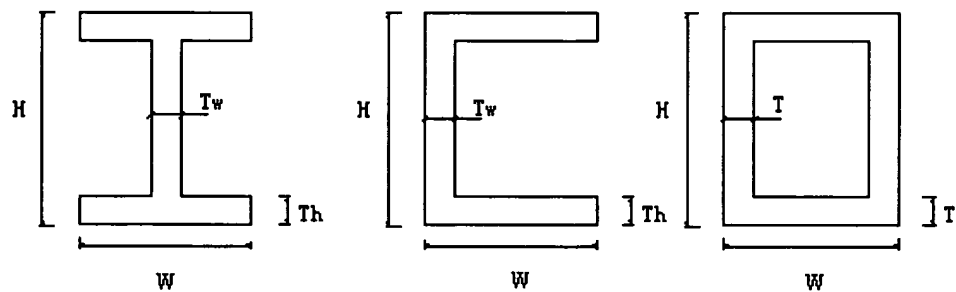


FIG. 59: I-Beam, [-Beam and []-Beam used by the collapsible container frame panel structure

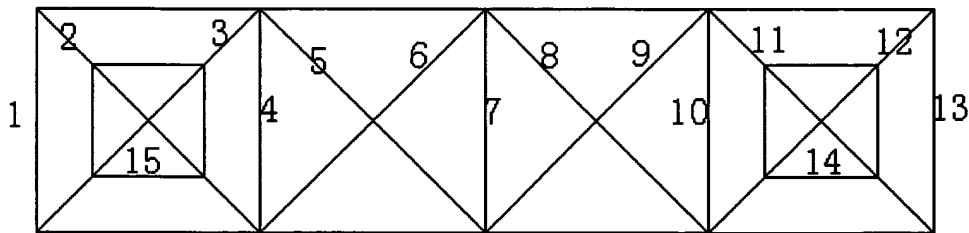


FIG. 60A/B: The front/back frame panel structure model.

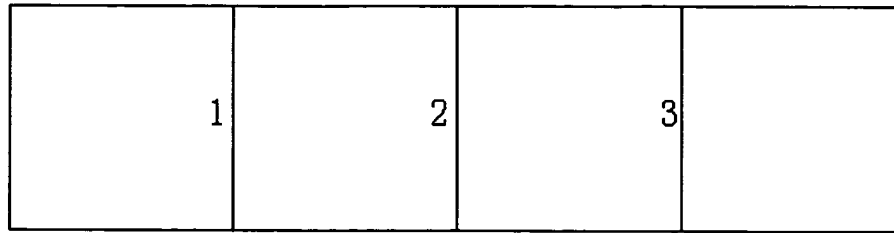


FIG. 61A/B: The modified front/back frame panel structure model with three vertical columns

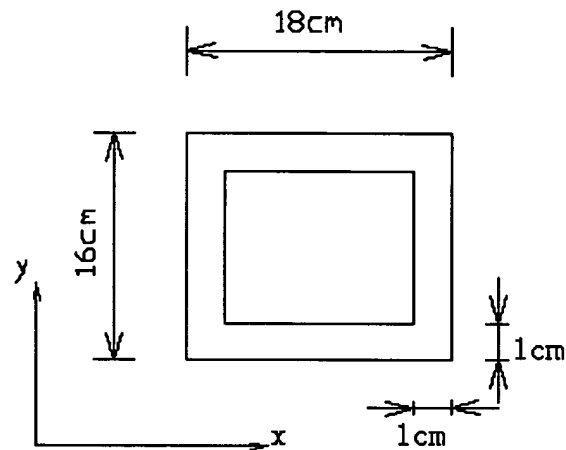


FIG. 62: the left frame vertical column section view

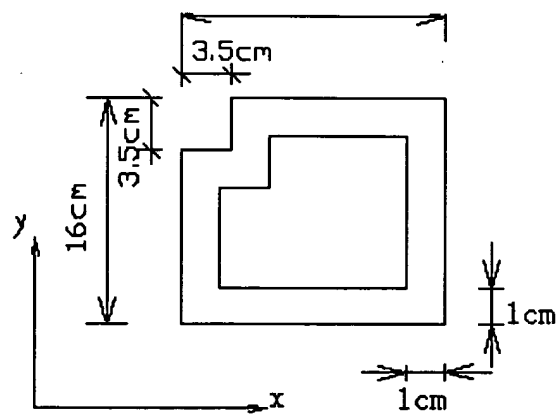


FIG. 63: the right frame vertical column section view

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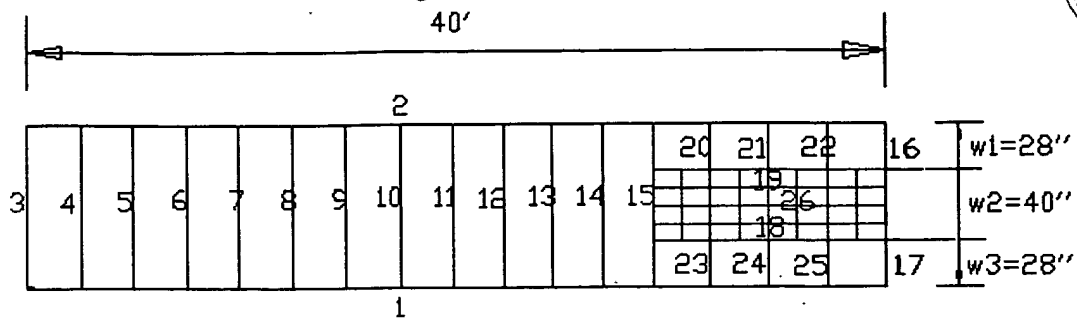


FIG. 64A/B: The floor frame panel structure model.

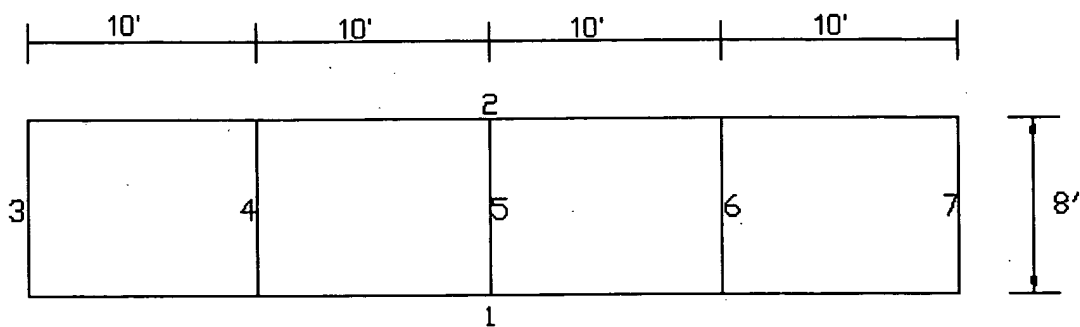


FIG. 65A/B: The ceiling frame panel structure model

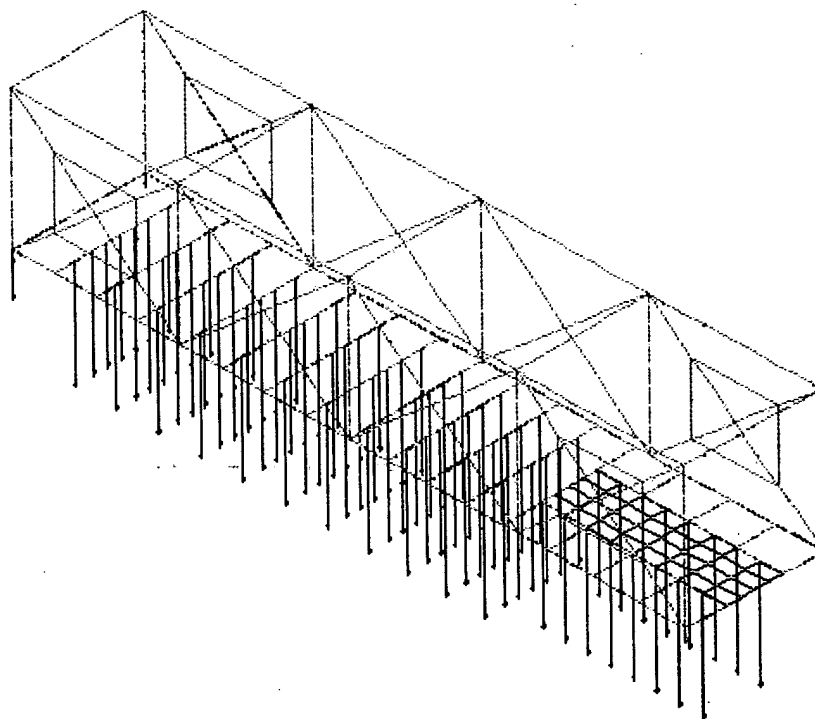


FIG. 66A/B: The frame panel structure load conditions.

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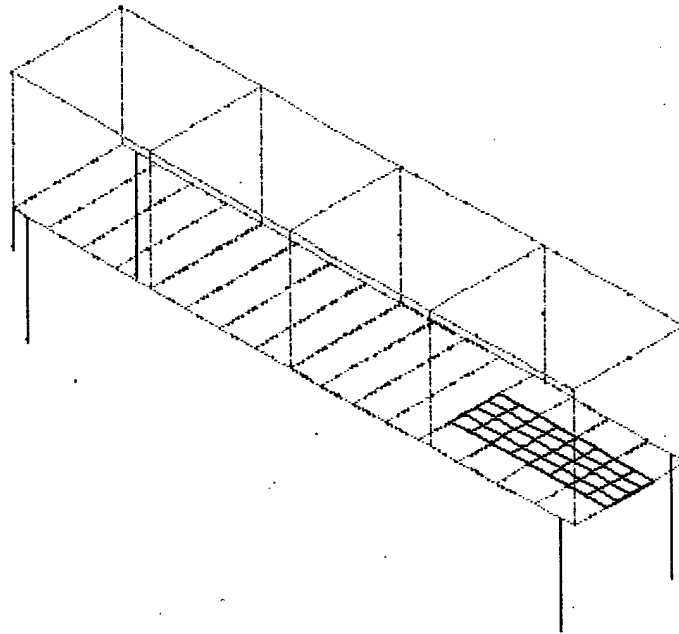


FIG. 67A/B: The weight load and the centralized load at the floor longitude beam corners.

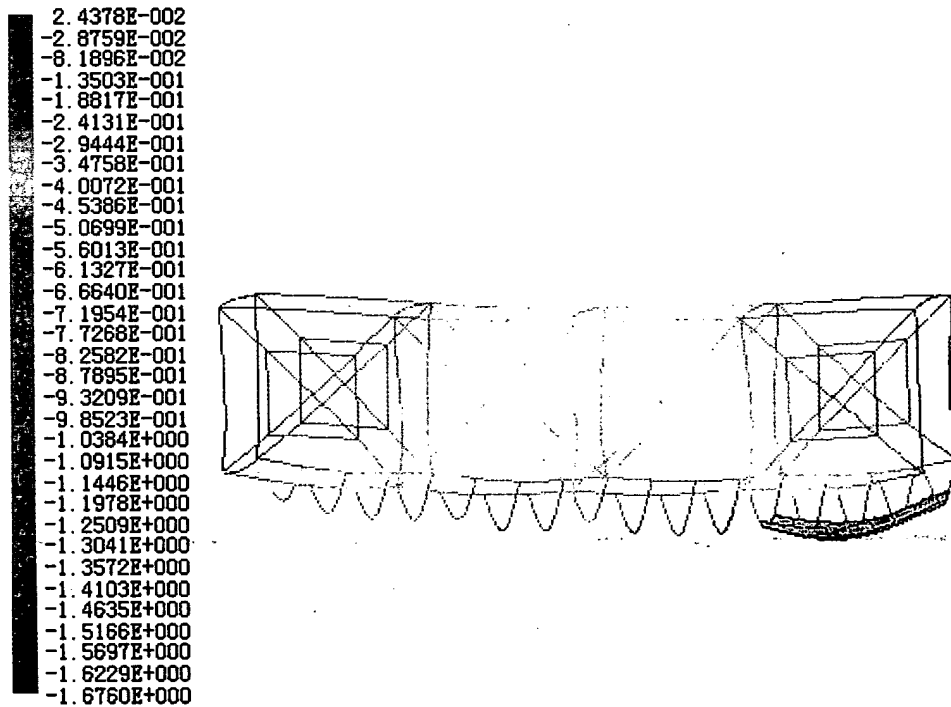


FIG. 68A: The structure deformation under 44,452 kg distributed load and 3,088 kg weight.

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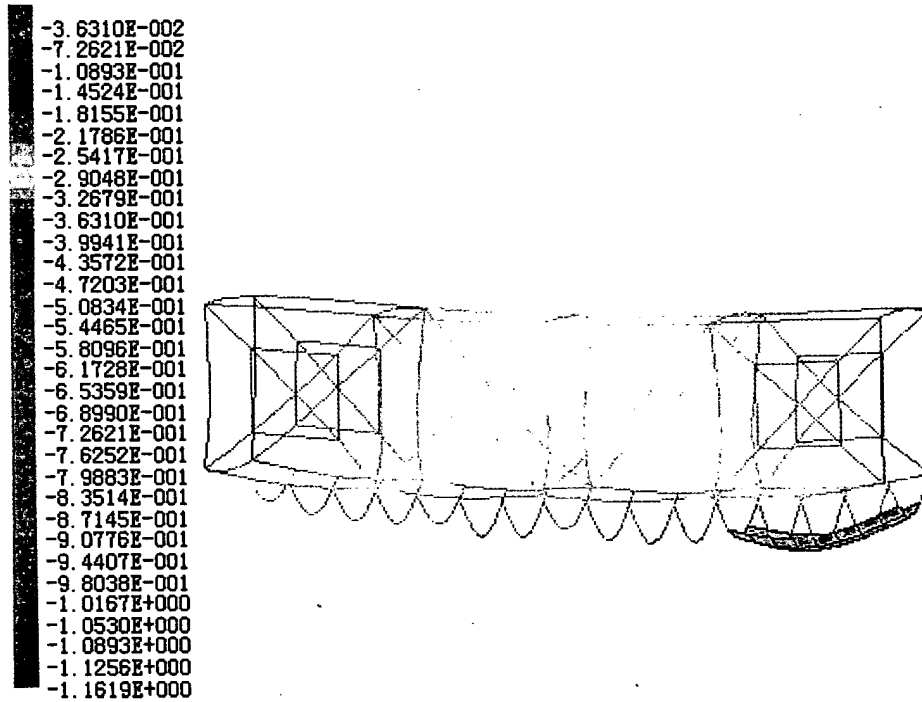


FIG. 69A: The structure deformation under 29,871 kg distributed load and 3,088 kg weight.

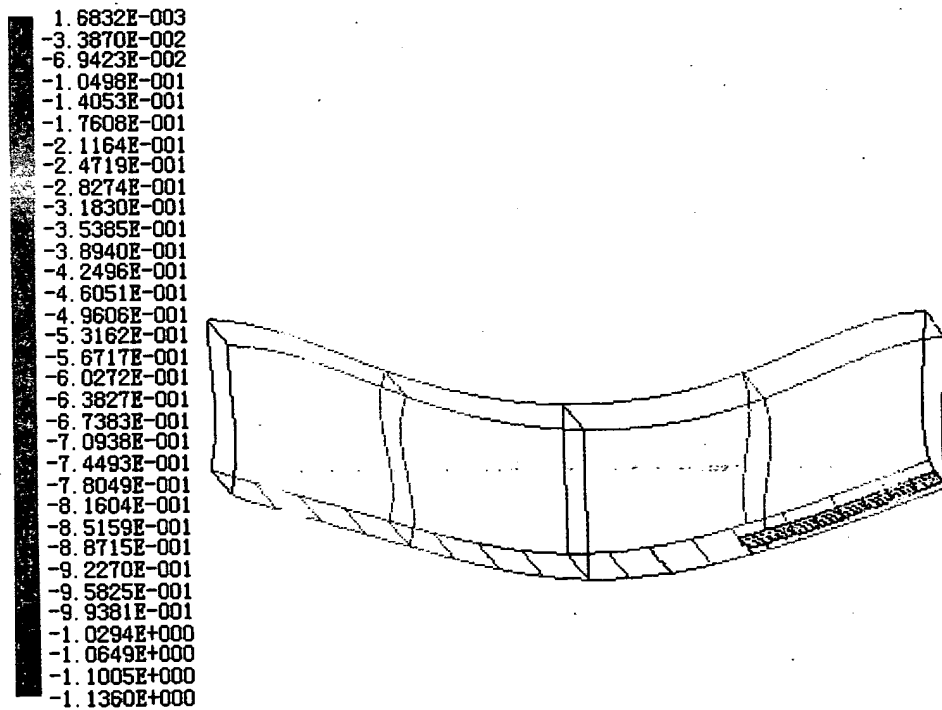


FIG. 70A: The structure deformation under 22,221 kg load at the floor corners and 3,088 kg weight load.

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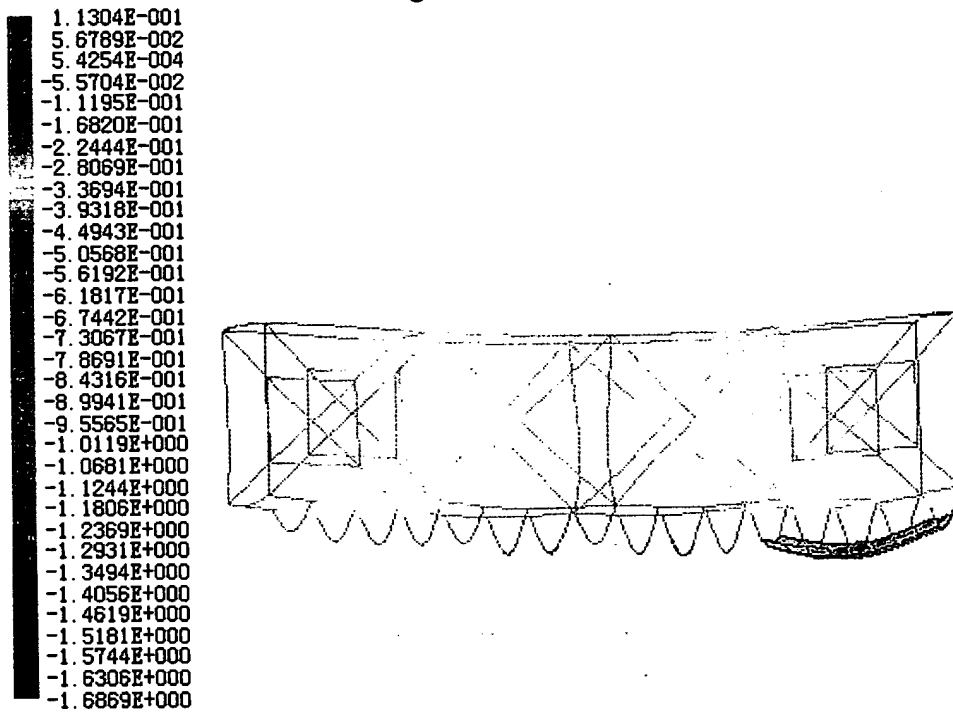


FIG. 71A: The structure deformation under 44,452 kg distributed load and 3,088 kg weight.

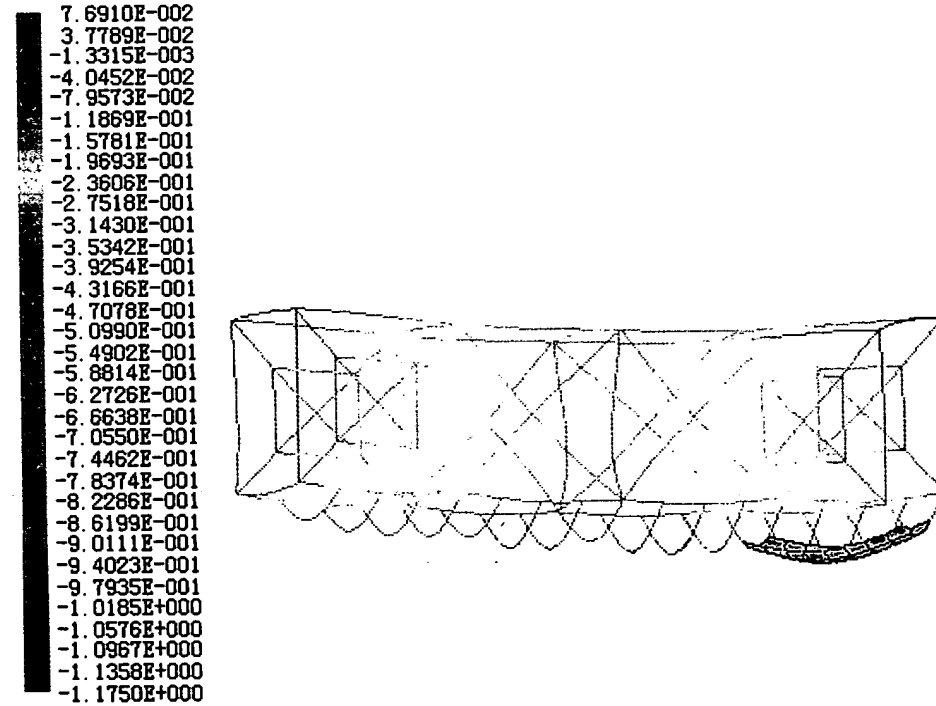


FIG. 72A: The structure deformation under 29,871 kg distributed load and 3,088 kg weight.

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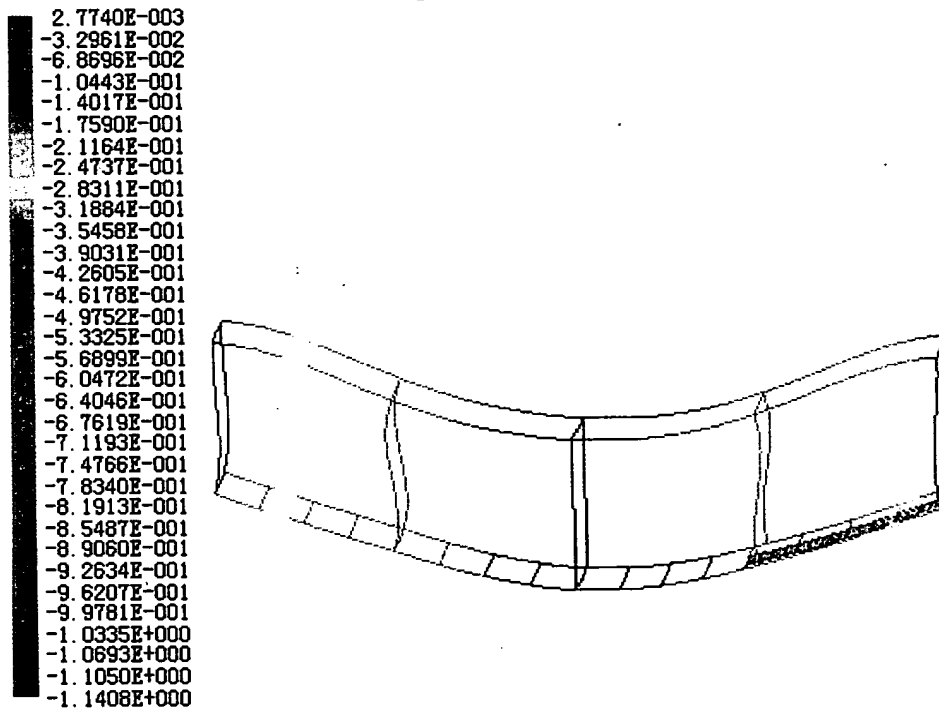


FIG. 73A: The structure deformation under 22,221 kg load at the four floor corners and 3,088 kg weight.

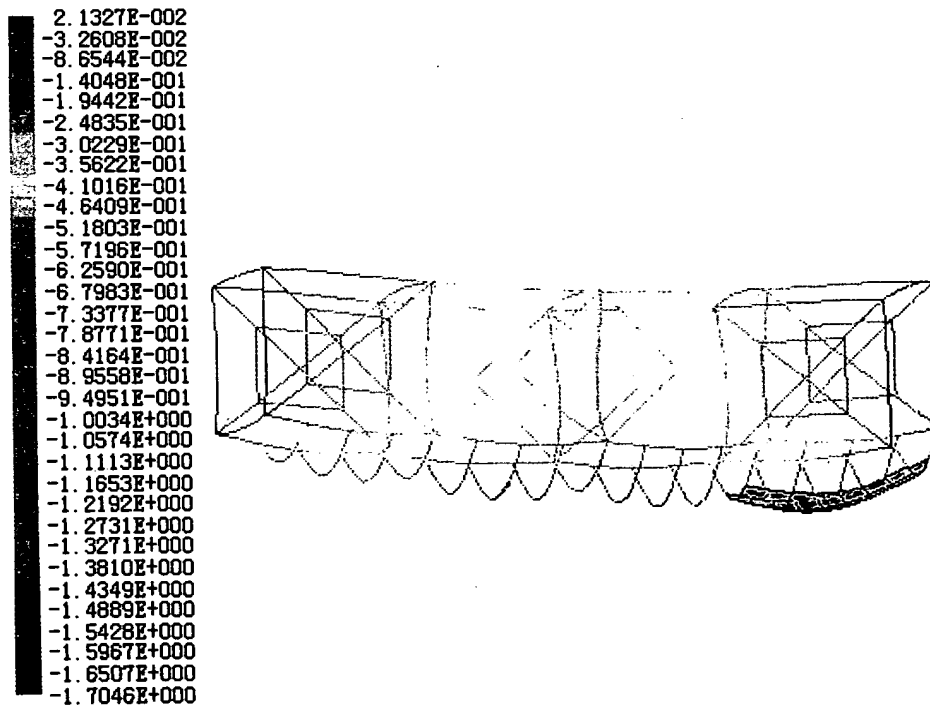


FIG. 68B: The structure deformation under 44,452 kg distributed load and 3,117 kg weight.

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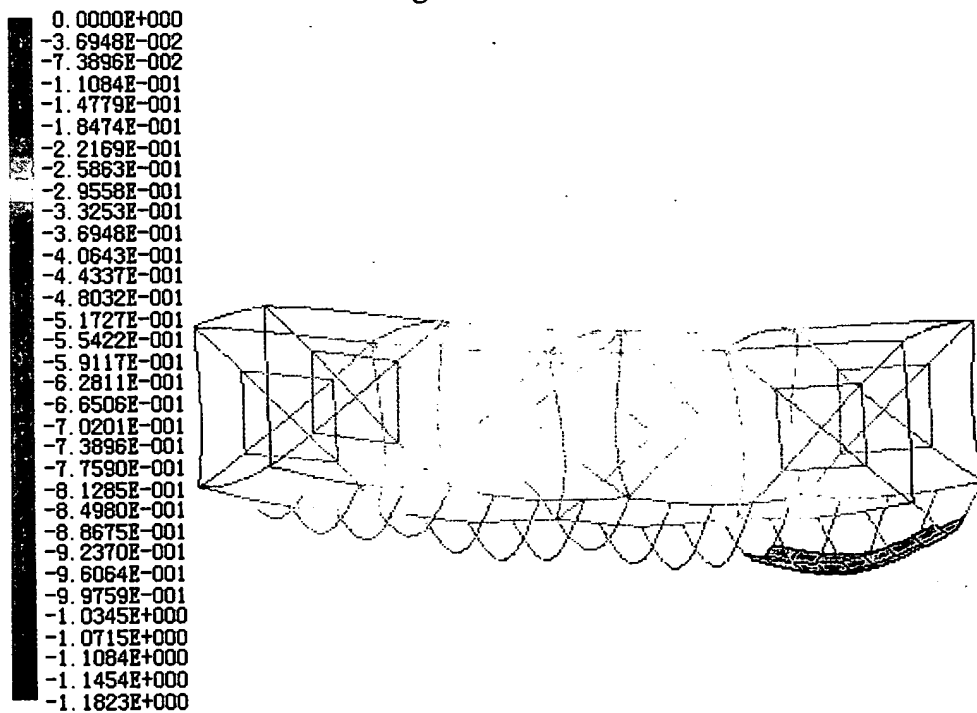


FIG. 69B: The 40 foot collapsible high cube container frame deformation under 29,871 distributed load and 3117kg weight.

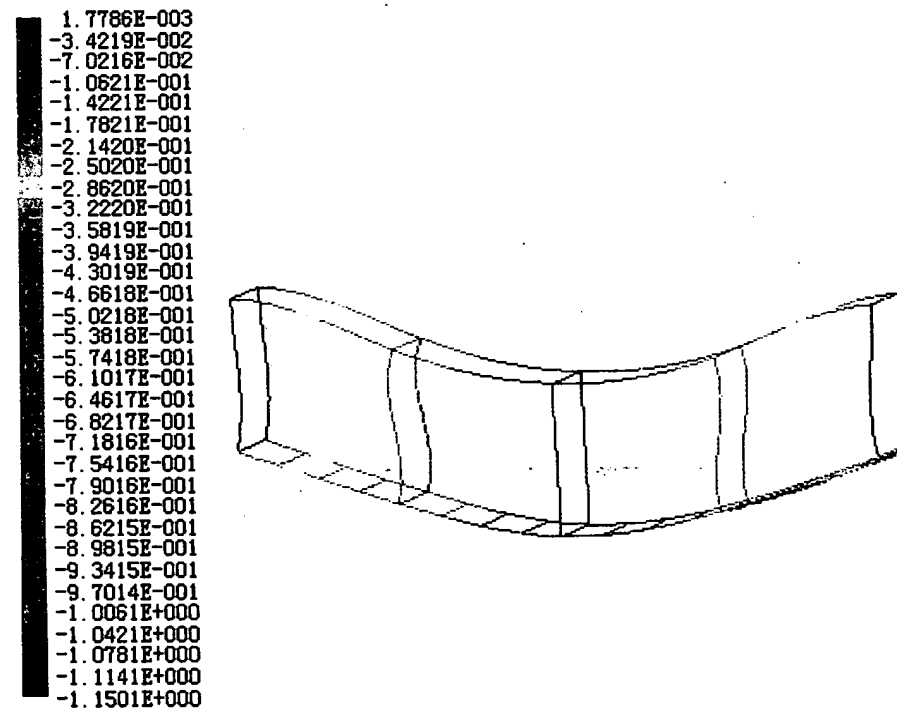


FIG. 70B: The 40 foot collapsible high cube container frame deformation under 22,221kg load at the four floor corners and 3117kg weight load.

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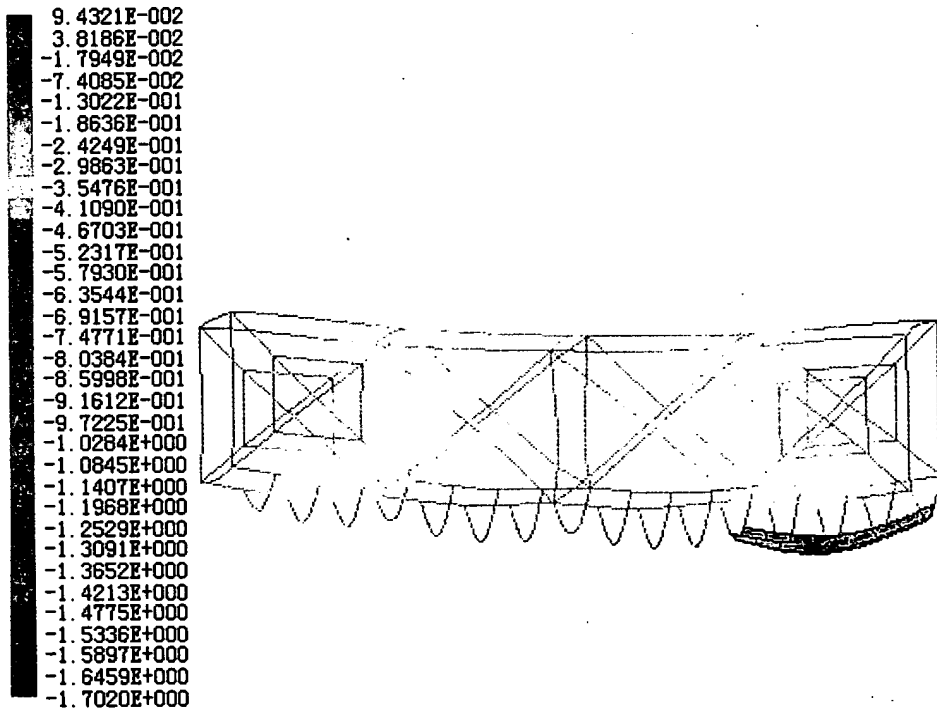


FIG. 71B: The 40 foot collapsible high cube container frame deformation under 44,452kg distributed load and 3117kg weight.

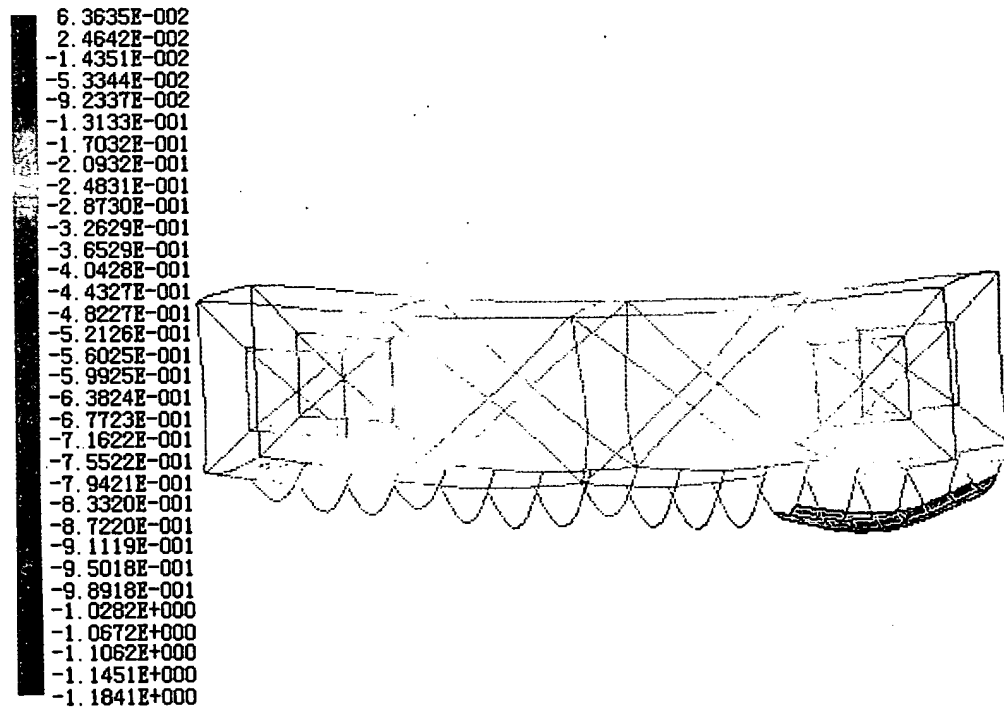


FIG. 72B: The 40 foot collapsible high cube container frame deformation under 29,871kg distributed load and 3117kg weight.

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3.0177E-003
-3.3194E-002
-6.9406E-002
-1.0562E-001
-1.4183E-001
-1.7804E-001
-2.1425E-001
-2.5046E-001
-2.8668E-001
-3.2289E-001
-3.5910E-001
-3.9531E-001
-4.3152E-001
-4.6774E-001
-5.0395E-001
-5.4016E-001
-5.7637E-001
-6.1258E-001
-6.4879E-001
-6.8501E-001
-7.2122E-001
-7.5743E-001
-7.9364E-001
-8.2985E-001
-8.6607E-001
-9.0228E-001
-9.3849E-001
-9.7470E-001
-1.0109E+000
-1.0471E+000
-1.0833E+000
-1.1195E+000
-1.1558E+000

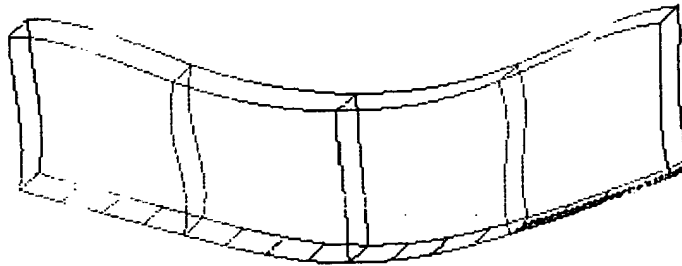


FIG. 73B: The 40 foot collapsible high cube container frame deformation under 22,221kg load at the four floor corners and 3117kg weight load.

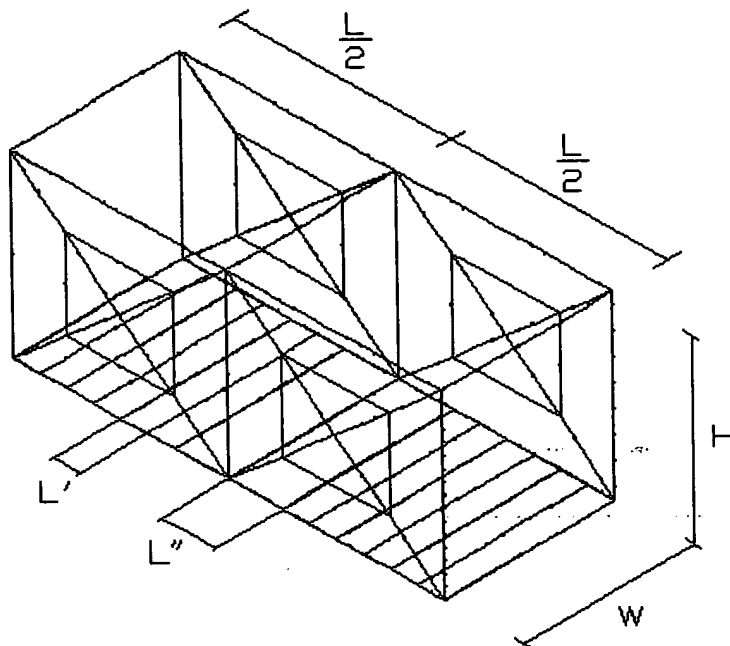


FIG. 58C/D: The frame panel structure model.

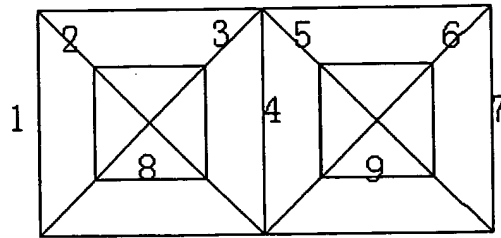


FIG. 60C/D: The front/back frame panel structure model.

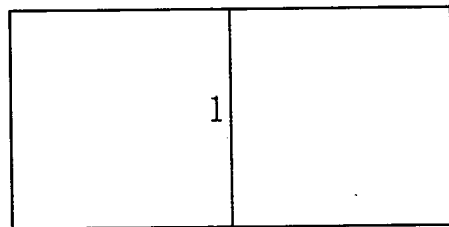


FIG. 61C/D: The modified front/back frame consisted only by one vertical column.

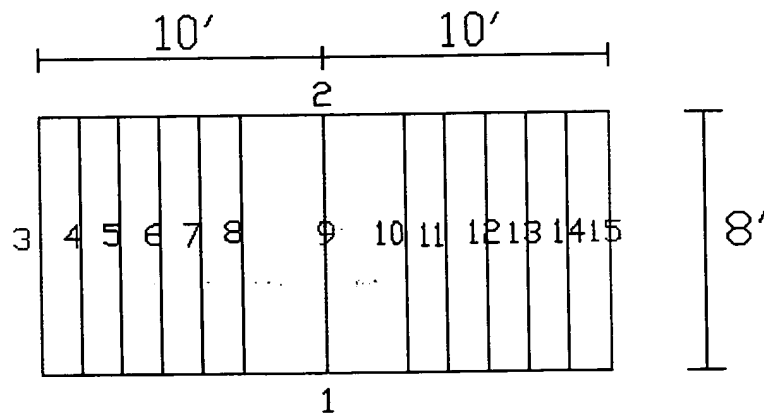


FIG. 64C/D: The floor frame panel structure model.

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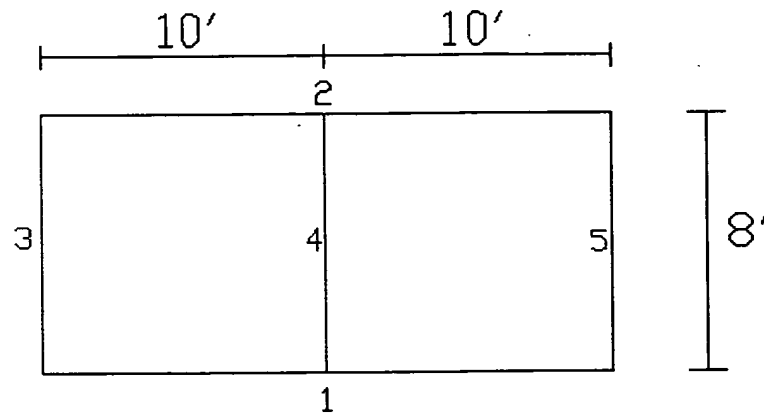


FIG. 65C/D: The ceiling frame panel structure model.

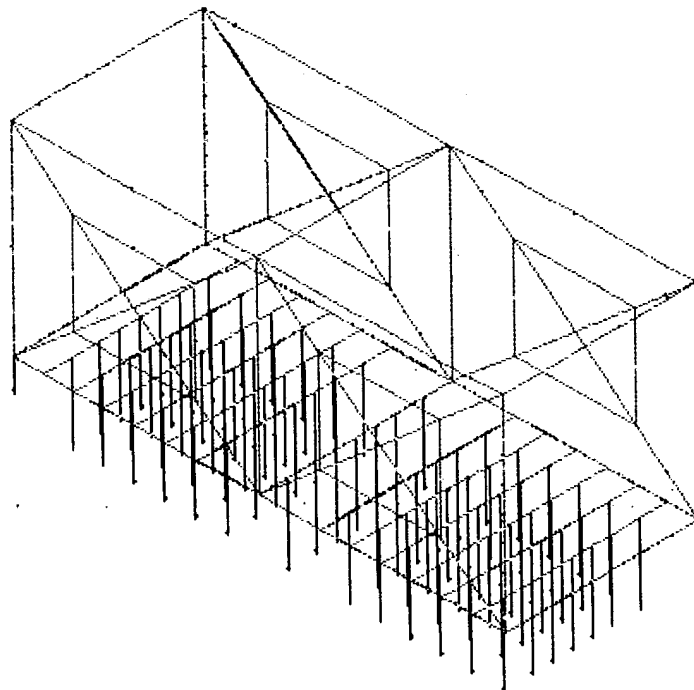


FIG. 66C/D: The distributed load and weight load.

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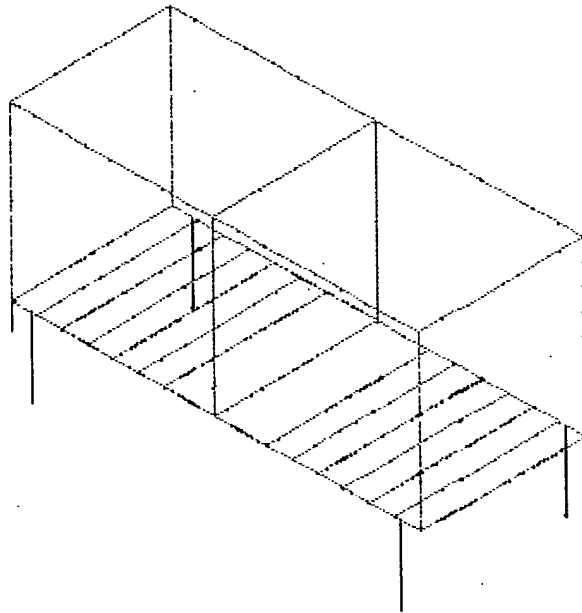


FIG. 67C/D: The container frame under a centralized load at the four floor beam corners and its weight load.

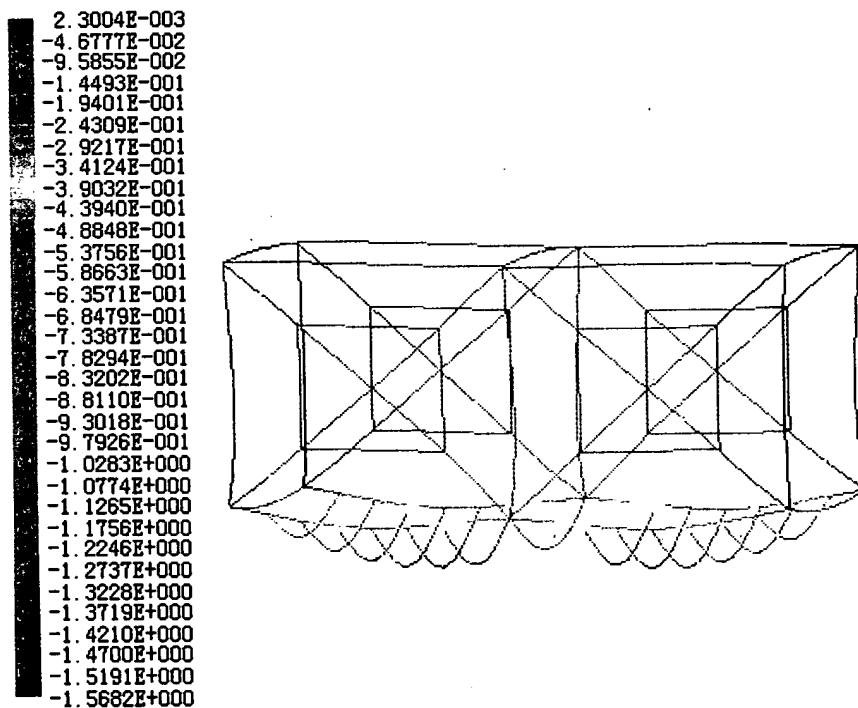


FIG. 68C: The 20 foot collapsible container frame deformation under 44,452kg distributed load and 1891kg weight.

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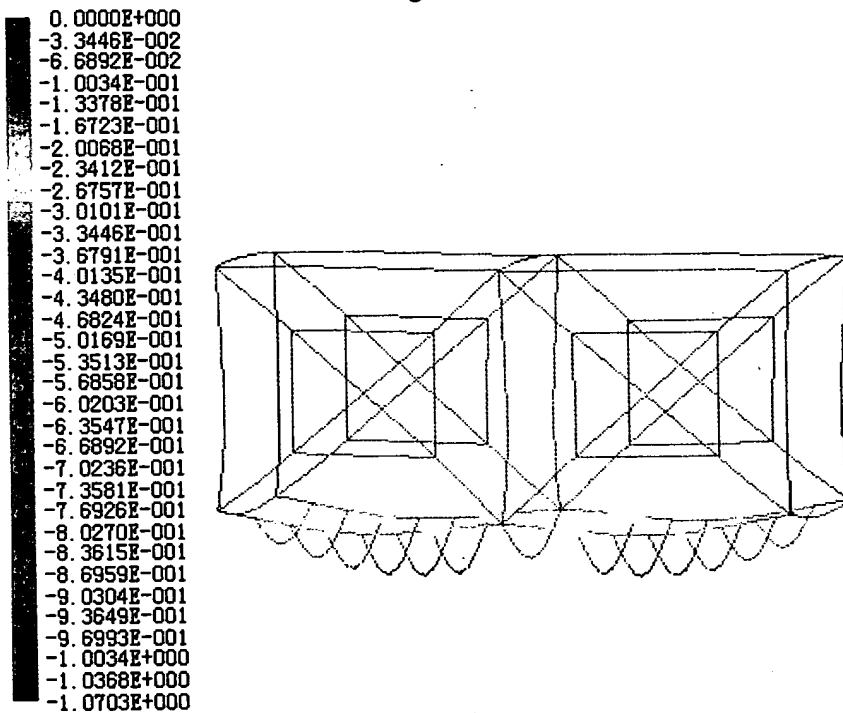


FIG. 69C: The 20 foot collapsible container frame deformation under 29,871 distributed load and 1891kg weight.

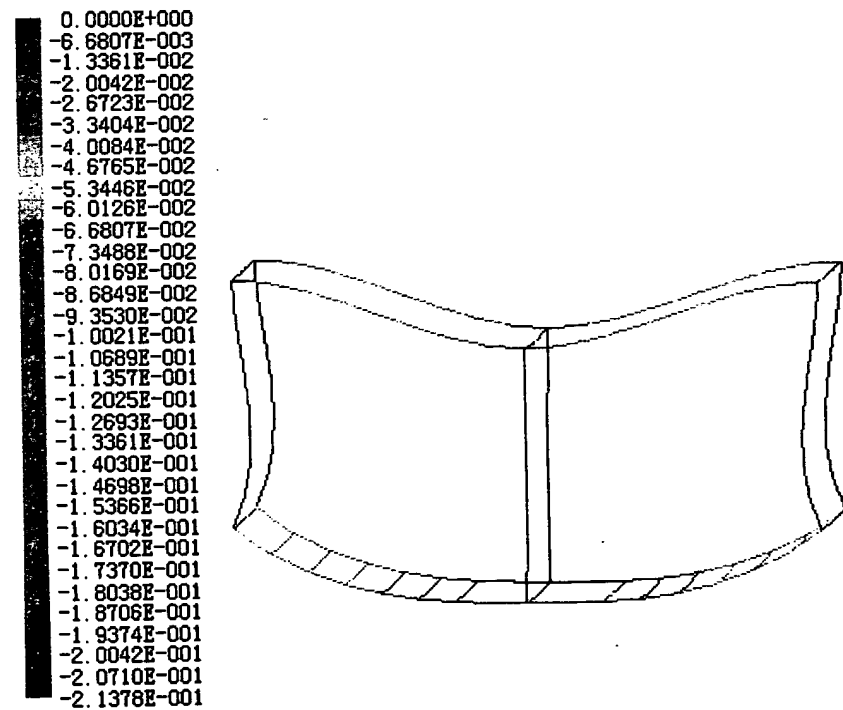


FIG. 70C: The container frame deformation under 22,221kg load at the four floor beam corners and 1891kg weight load.

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7.6053E-002
2.4901E-002
-2.6251E-002
-7.7403E-002
-1.2856E-001
-1.7971E-001
-2.3086E-001
-2.8201E-001
-3.3316E-001
-3.8431E-001
-4.3547E-001
-4.8662E-001
-5.3777E-001
-5.8892E-001
-6.4007E-001
-6.9123E-001
-7.4238E-001
-7.9353E-001
-8.4468E-001
-8.9583E-001
-9.4699E-001
-9.9814E-001
-1.0493E+000
-1.1004E+000
-1.1516E+000
-1.2027E+000
-1.2539E+000
-1.3051E+000
-1.3562E+000
-1.4074E+000
-1.4585E+000
-1.5097E+000
-1.5608E+000

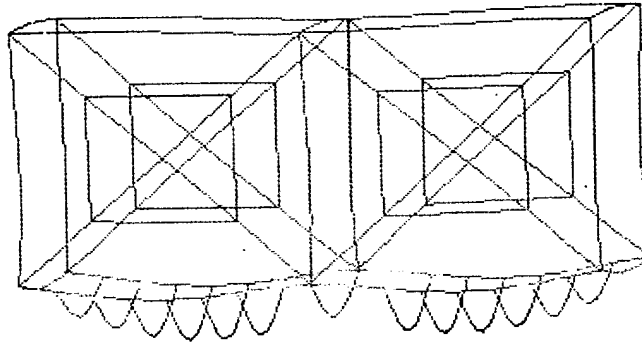


FIG. 71C: The 20 foot collapsible container frame deformation under 44,452kg distributed load and 1891kg weight.

5.0151E-002
1.5303E-002
-1.9544E-002
-5.4392E-002
-8.9239E-002
-1.2409E-001
-1.5893E-001
-1.9378E-001
-2.2863E-001
-2.6348E-001
-2.9832E-001
-3.3317E-001
-3.6802E-001
-4.0287E-001
-4.3771E-001
-4.7256E-001
-5.0741E-001
-5.4226E-001
-5.7710E-001
-6.1195E-001
-6.4680E-001
-6.8165E-001
-7.1649E-001
-7.5134E-001
-7.8619E-001
-8.2104E-001
-8.5588E-001
-8.9073E-001
-9.2558E-001
-9.6043E-001
-9.9527E-001
-1.0301E+000
-1.0650E+000

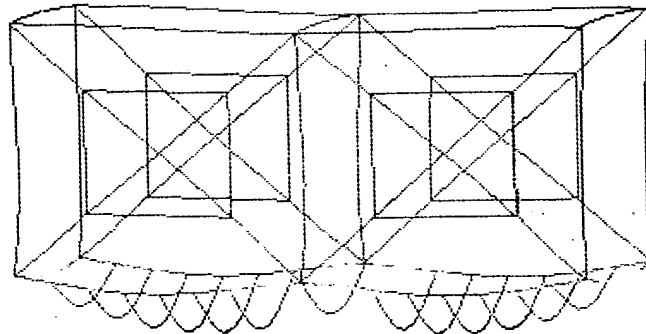


FIG. 72C: The 20 foot collapsible container frame deformation under 29,871 distributed load and 1891kg weight.

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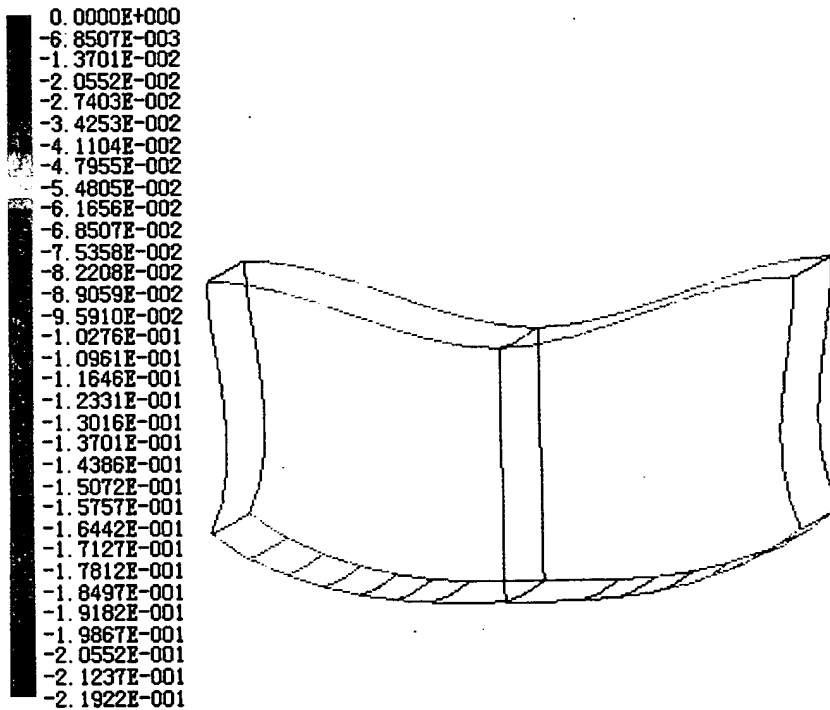


FIG. 73C: the container frame deformation under 22,221kg load at the four floor beam corners and 1891kg weight load.

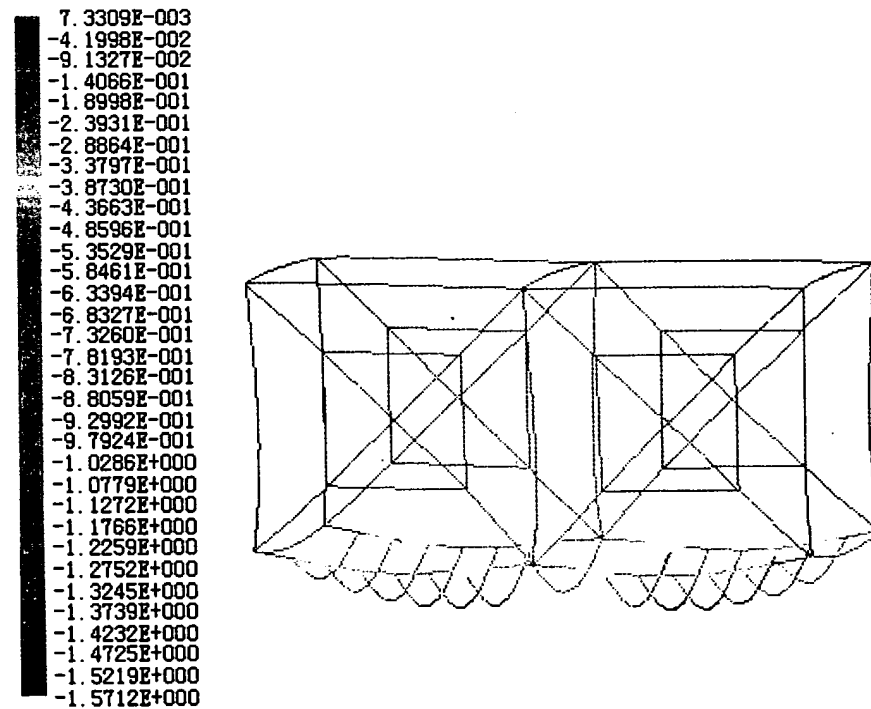


FIG. 68D: the 20 foot collapsible high cube container frame deformation under 44,452kg distributed load and 1936kg weight.

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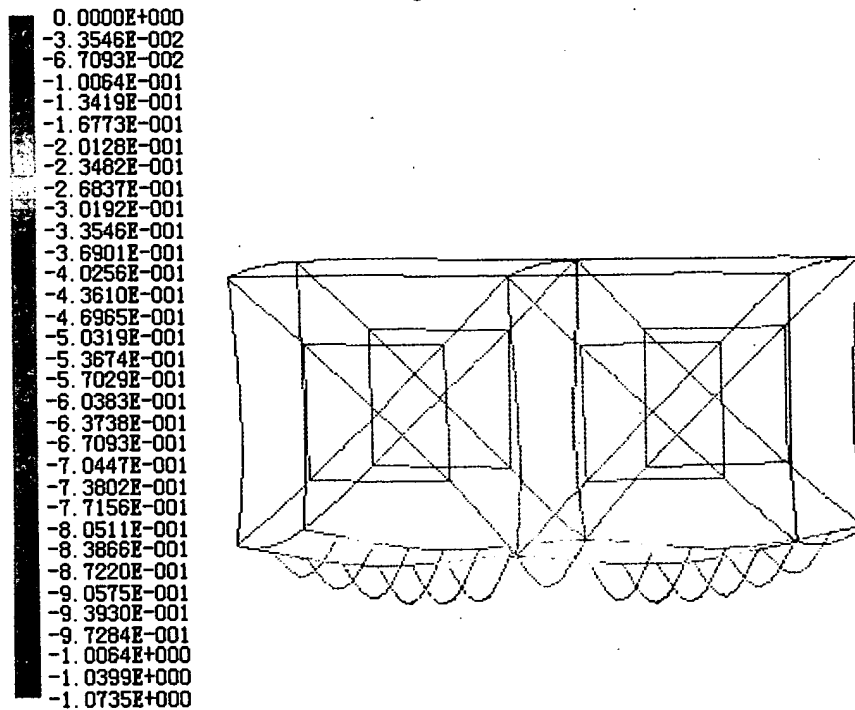


FIG. 69D: The 20 foot collapsible high cube container frame deformation under 29,871 distributed load and 1936kg weight.

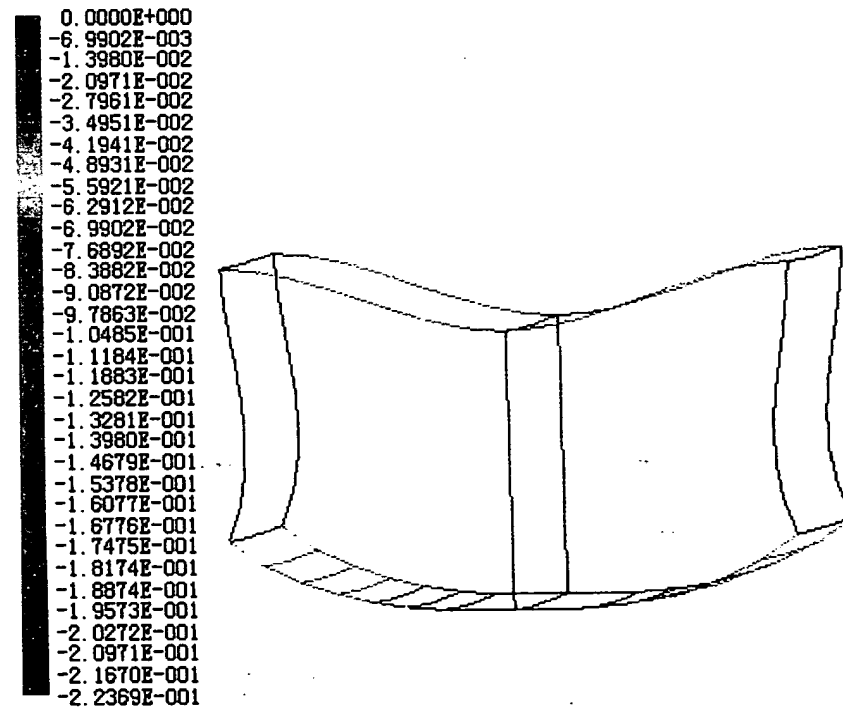


FIG. 70D: The 20 foot collapsible high cube container frame deformation under 22,221kg load at the four floor beam corners and 1936kg weight load.

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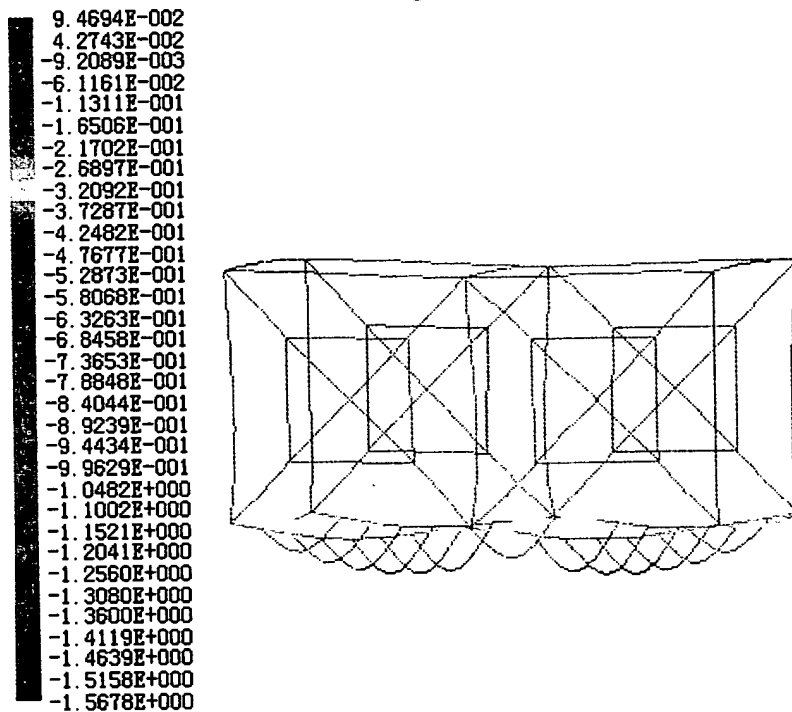


FIG. 71D: The 20 foot collapsible high cube container frame deformation under 44,452kg distributed load and 1936kg weight.

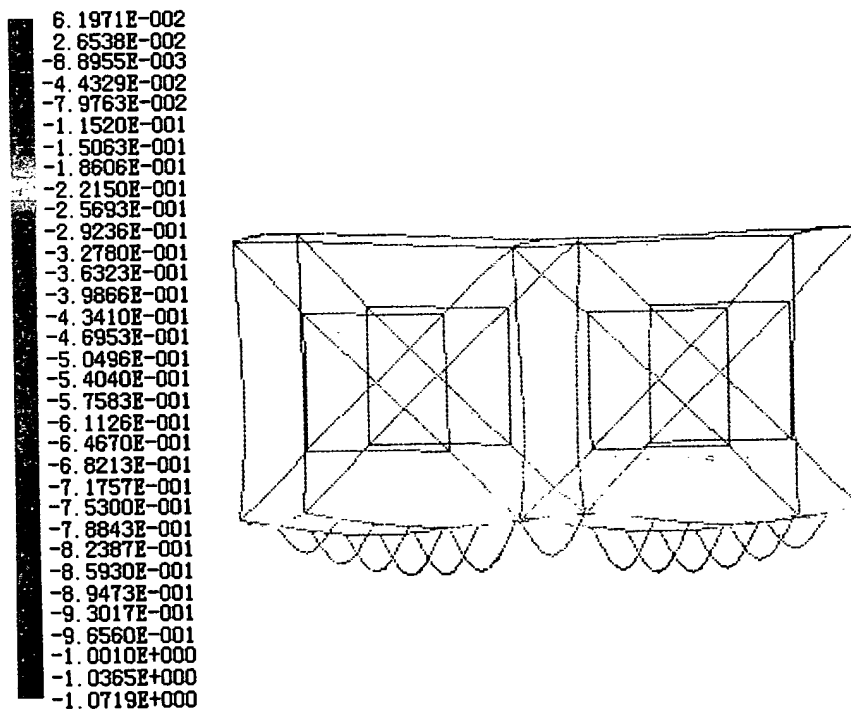


FIG. 72D: The 20 foot collapsible high cube container frame deformation under 29,871kg distributed load and 1936kg weight.

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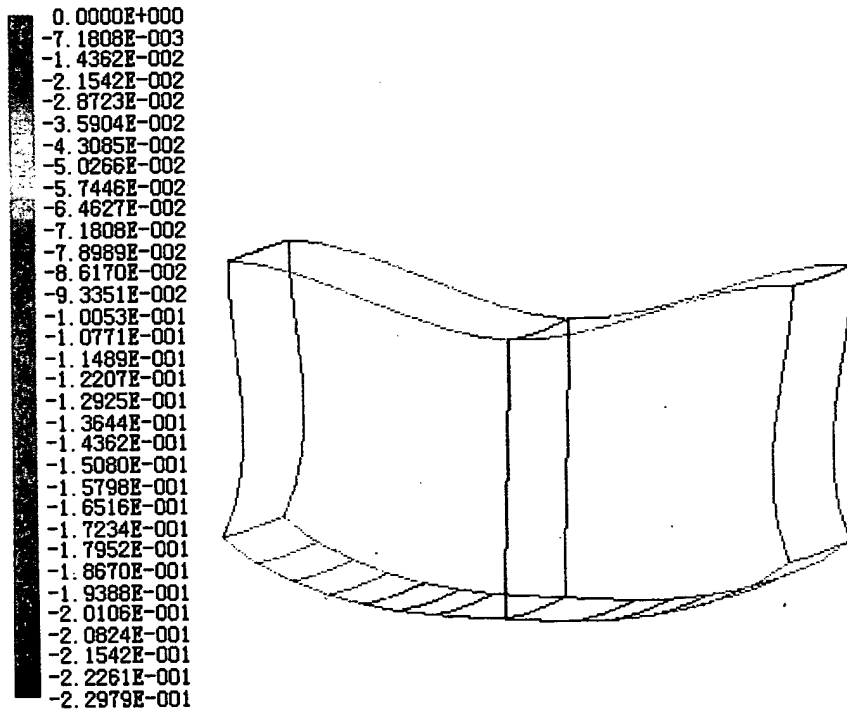


FIG. 73D: The 20 foot collapsible high cube container frame deformation under 22,221kg load at the four floor beam corners and 1936kg weight load.

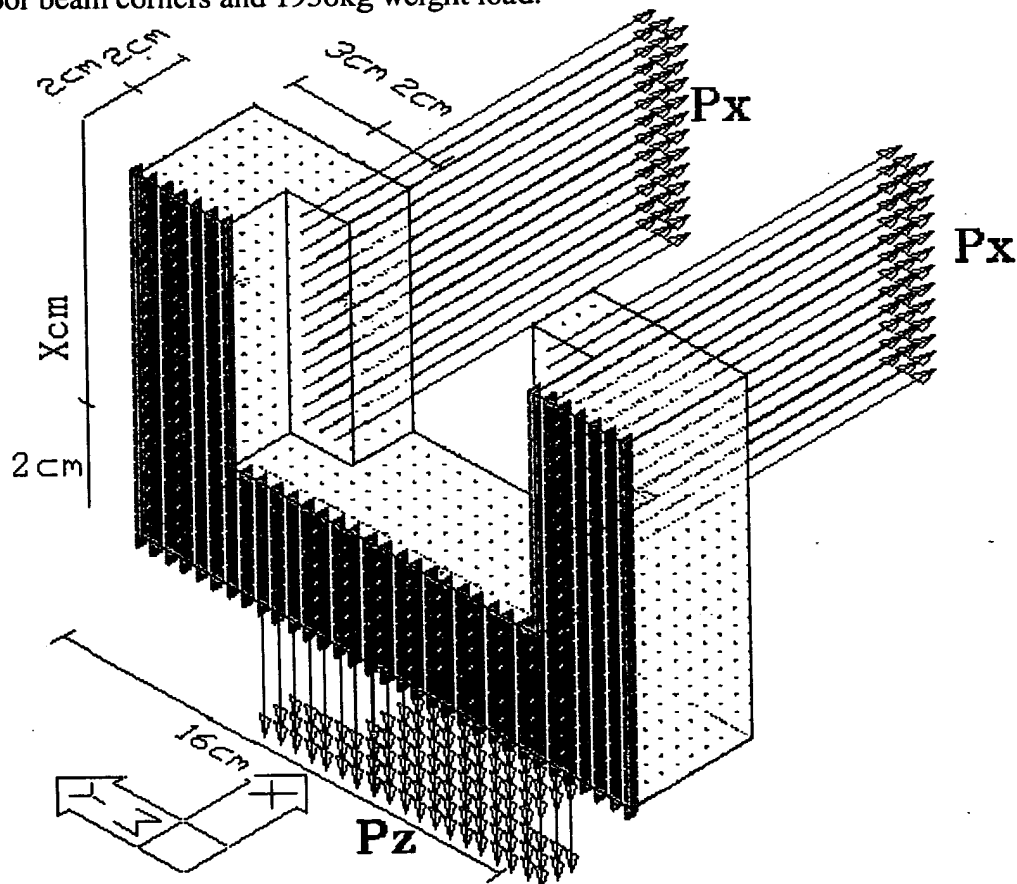


FIG. 74: The joint T pin holder and its load condition.

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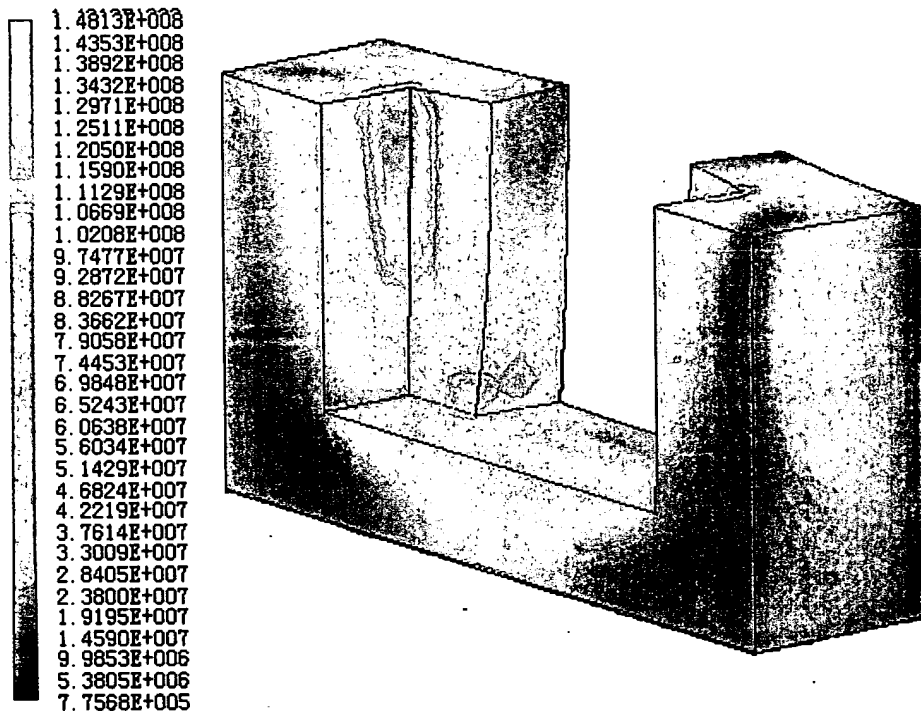


FIG. 75: The floor level joint T pin holder stress contour.

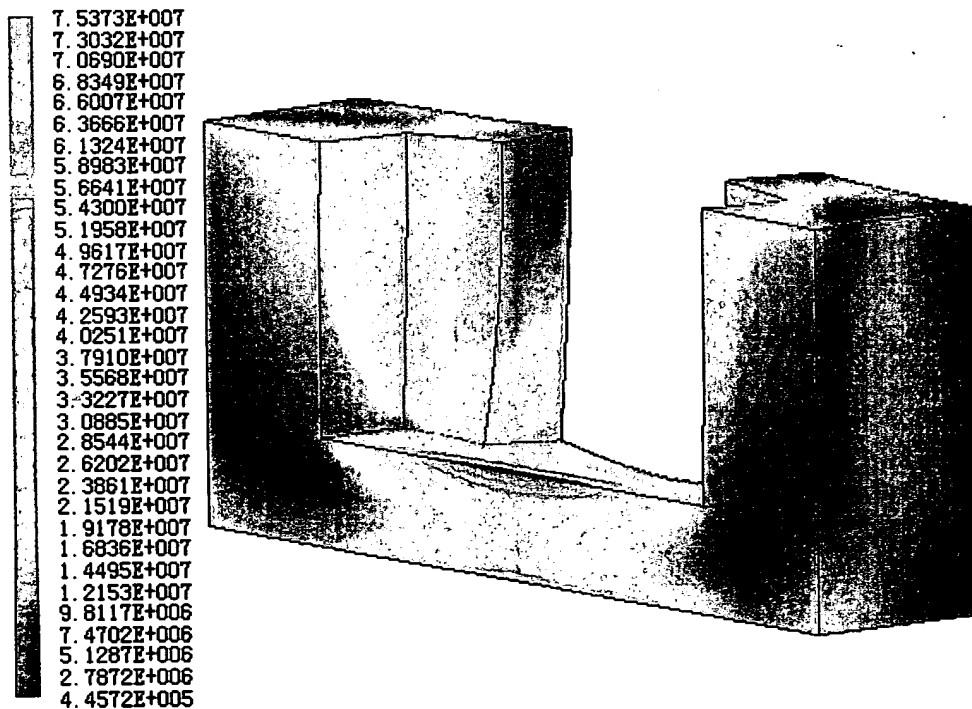


FIG. 76: The ceiling level joint T pin holder stress contour.

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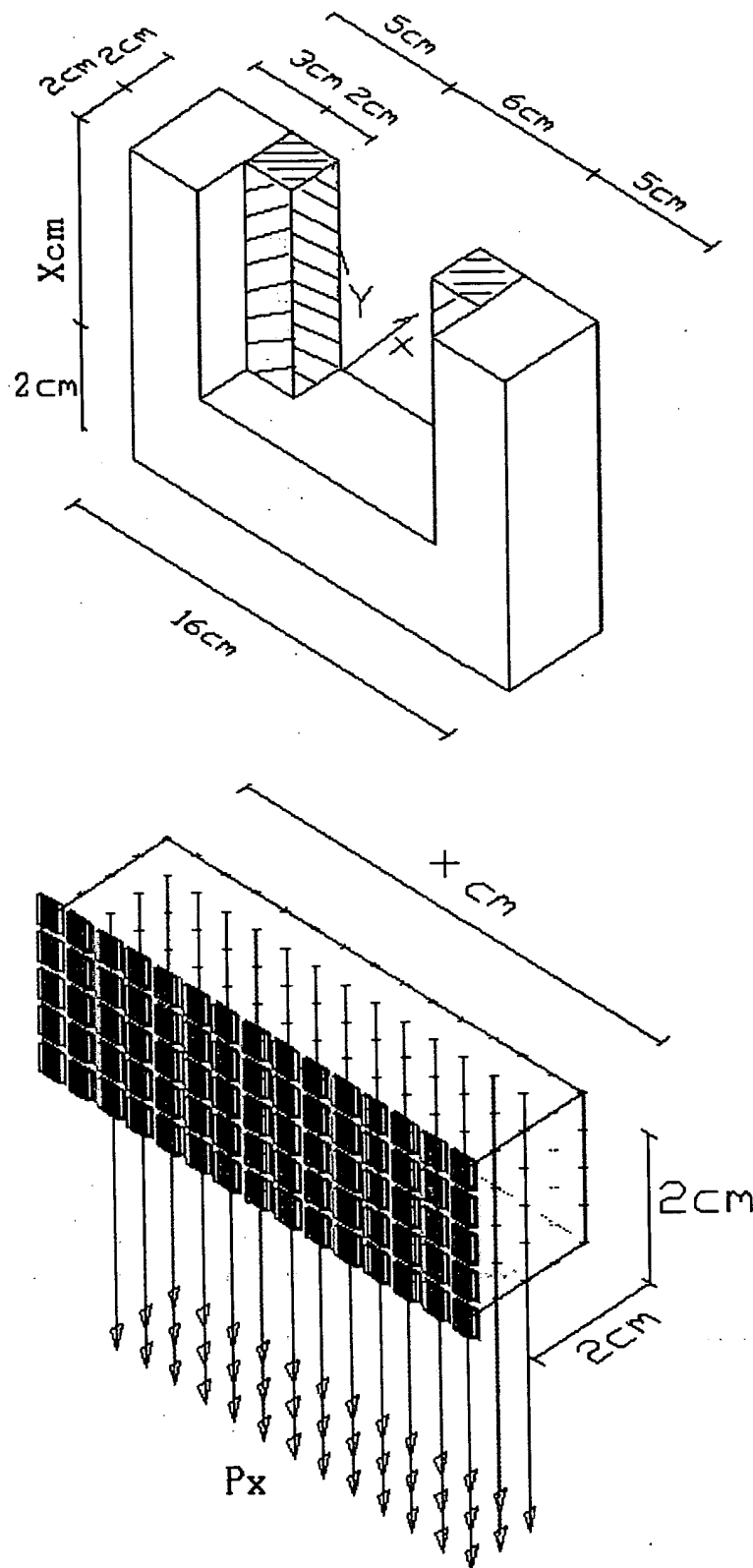


FIG. 77: The joint T pin holder detail analysis.

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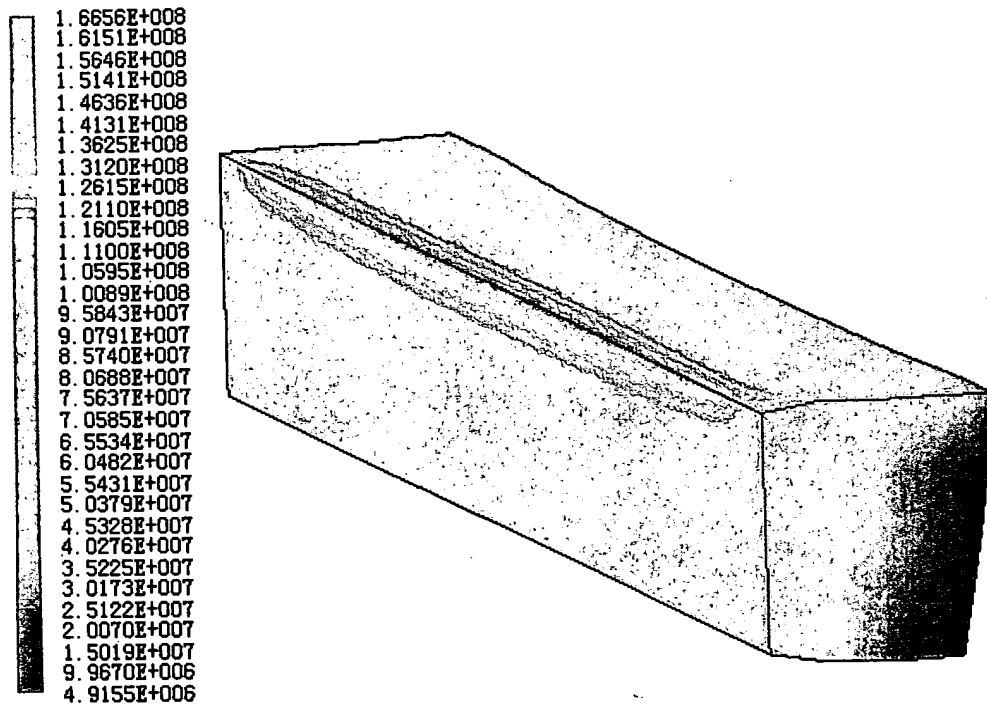


FIG. 78: The joint T pin holder detail stress contour at the floor level.

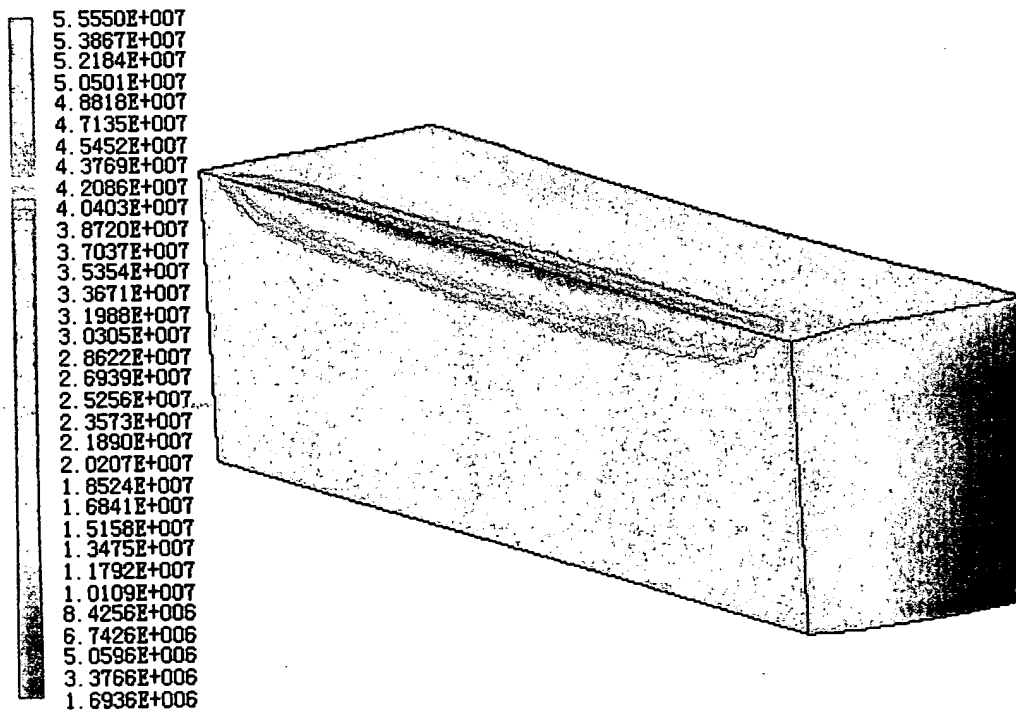


FIG. 79: The joint T pin holder detail stress contour at the ceiling level.

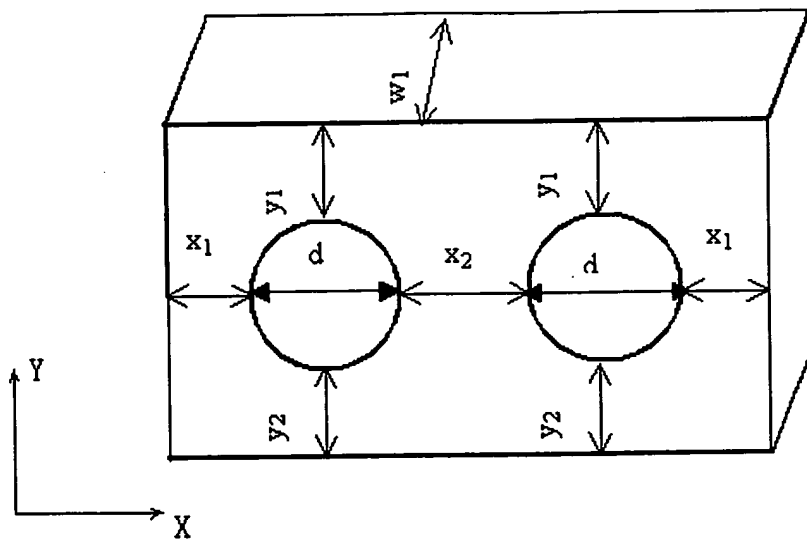


FIG. 80: The male pin base.

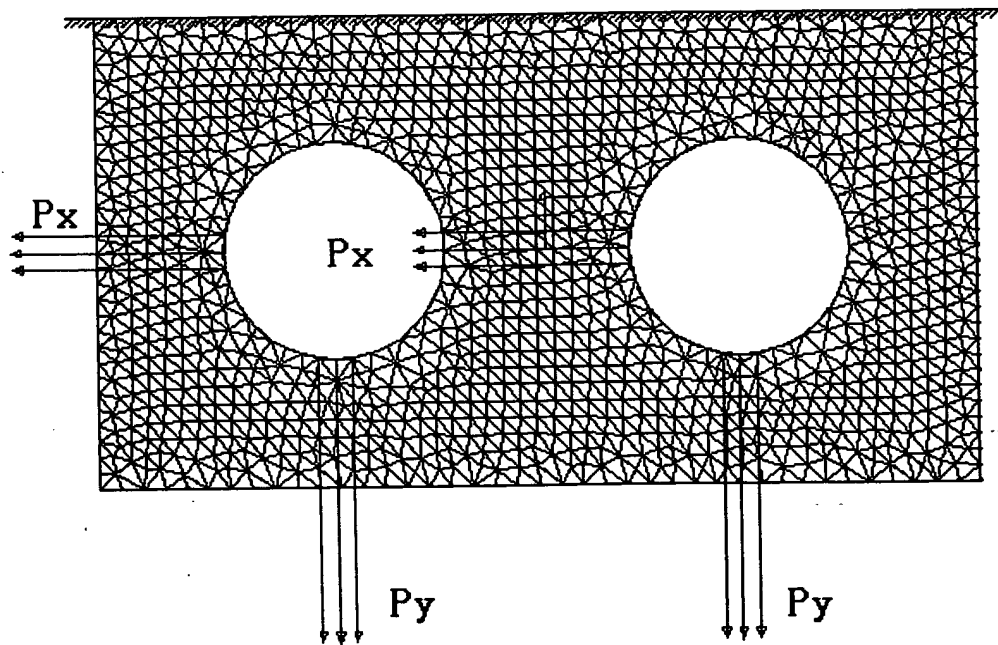


FIG. 81: The male pin base finite element model and load.

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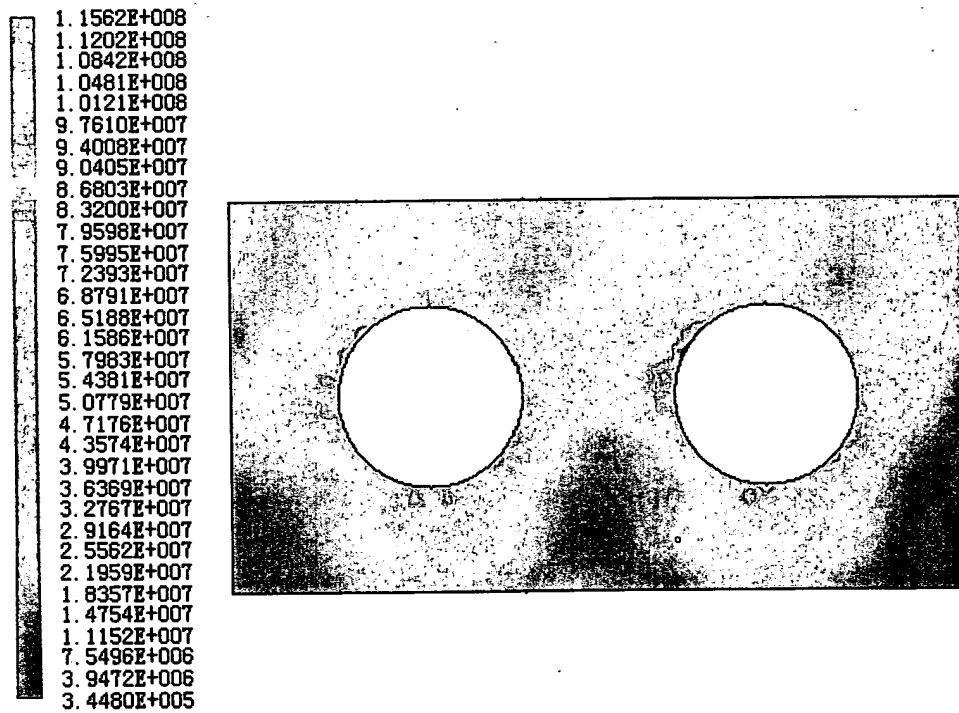


FIG. 82: The male pin base stress contour.

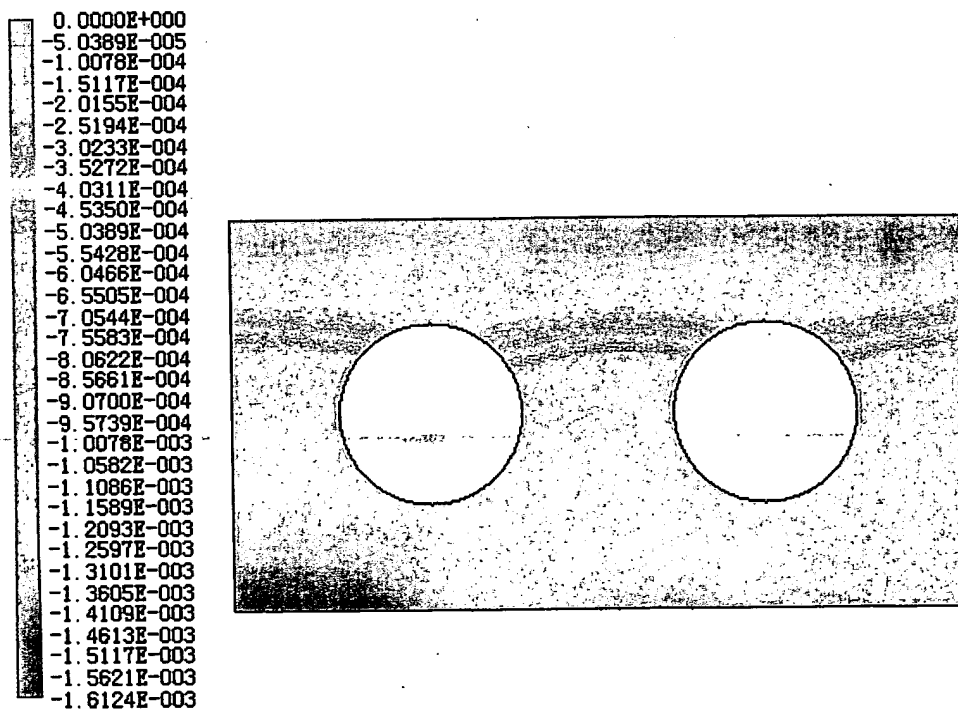


FIG. 83: The male pin base deformation graph of X- orientation.

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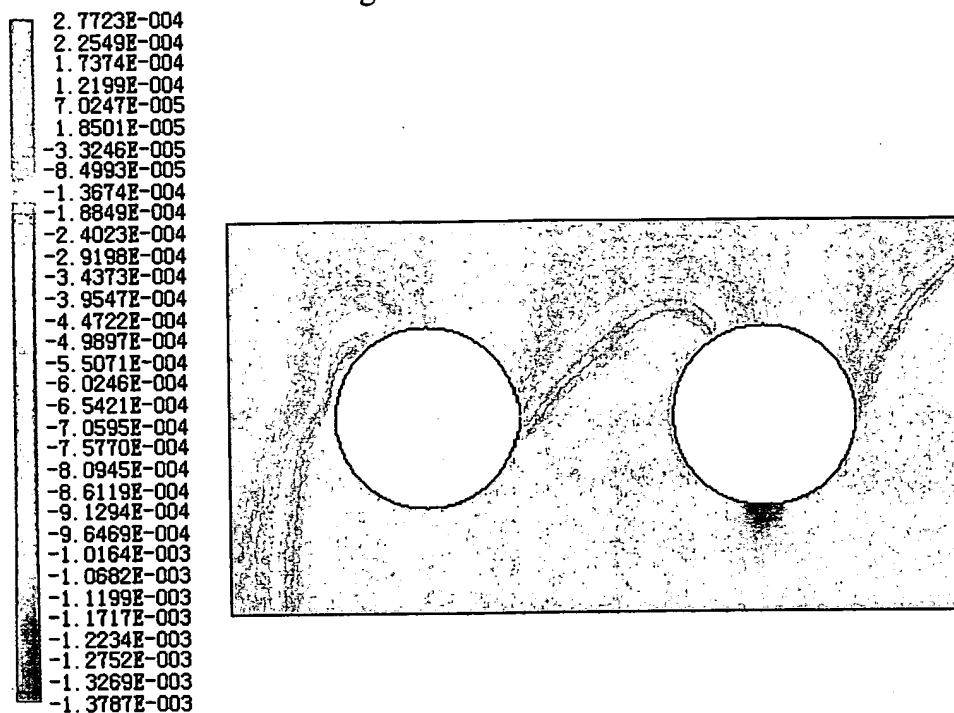


FIG. 84: The male pin base deformation graph of Y- orientation.

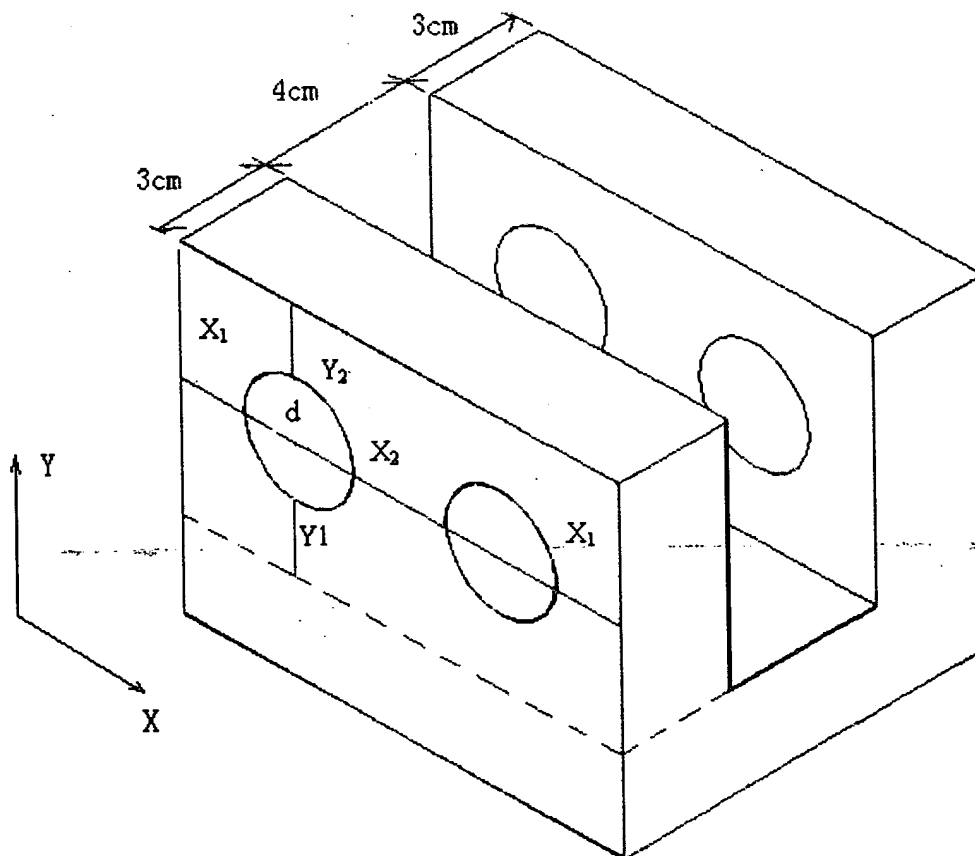


FIG. 85: The female pin base.

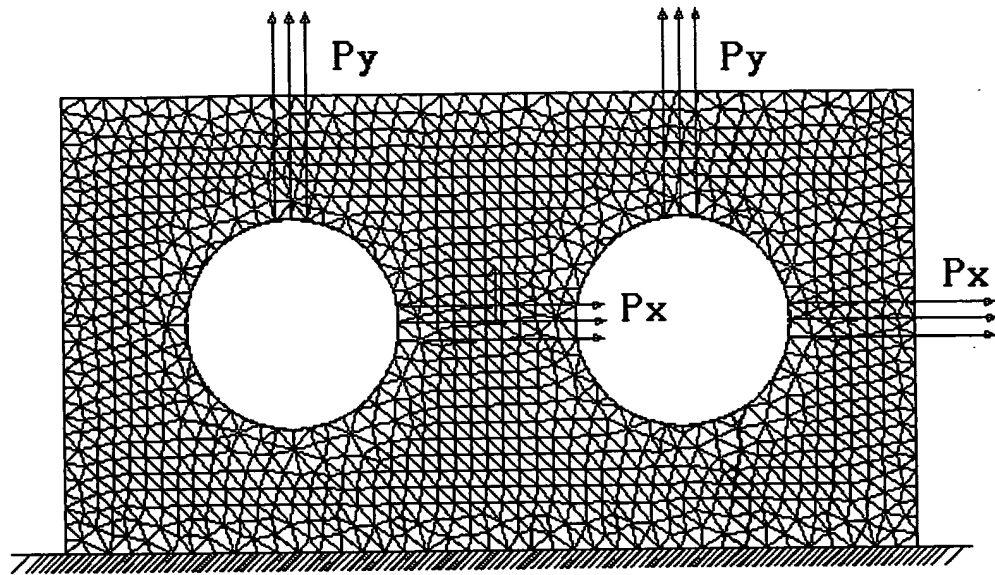


FIG. 86: The female pin base finite element model and load.

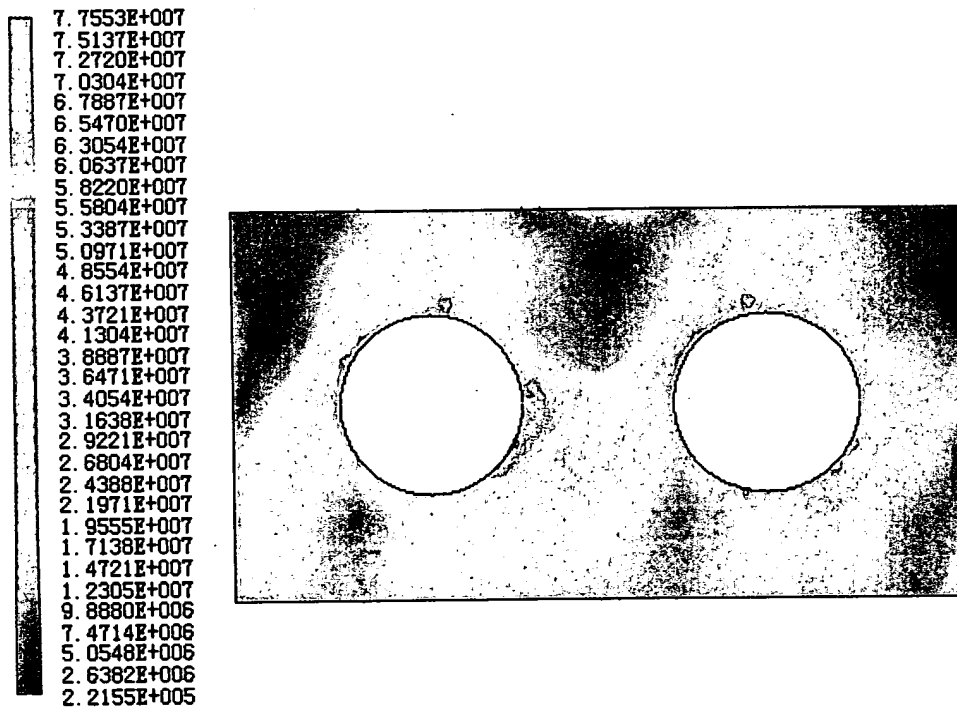


FIG. 87: The female pin base stress contour.

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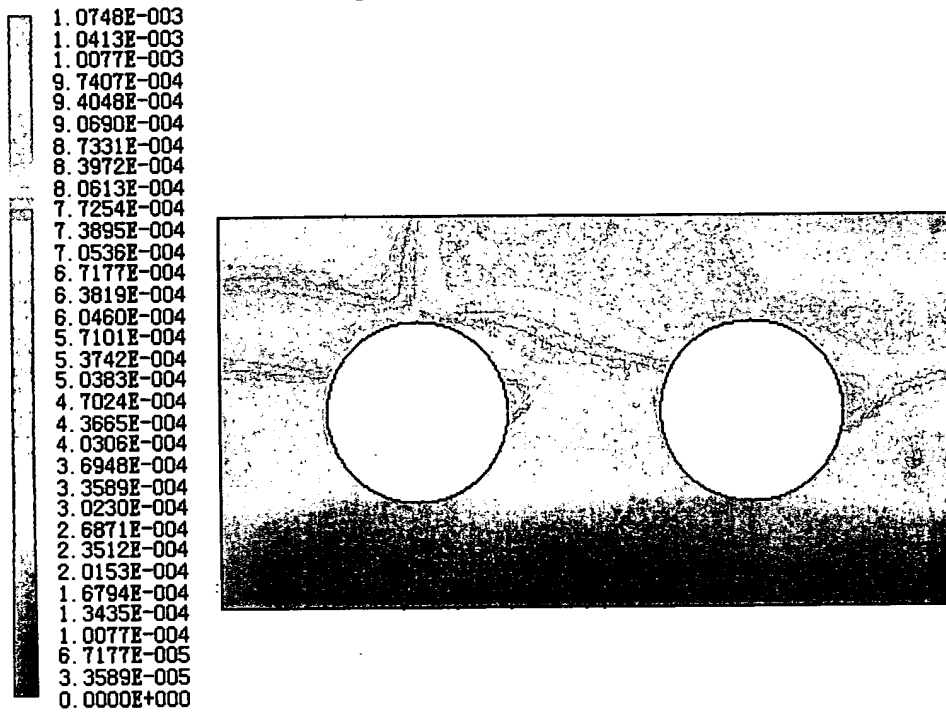


FIG. 88: The female pin base deformation graph of X- orientation.

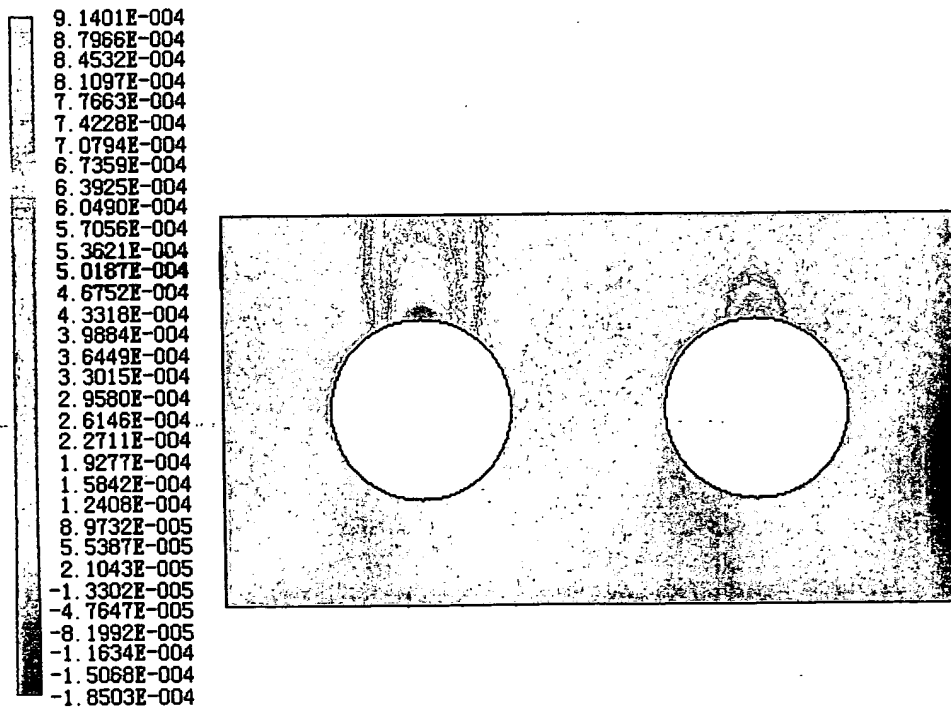


FIG. 89: The female pin base deformation graph of Y- orientation.

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Table 1A: The inner force of the cross beams in the front/back frame panel structure as shown in FIG. 60A/B.

Beam number	Simply supported at the four ceiling corners (N)	Simply supported at the four ceiling corners (LB)	Simply supported at the four floor corners (N)	Simply supported at the four floor corners (LB)
2	9.494E+004	2.136E+04	5.780 E+004	1.301E+04
3	-4.402E+004	-9.905E+03	-8.093E+004	-1.821E+04
4	5.672E+003	1.276E+03	3.115 E+004	7.009E+03
5	3.783E+004	8.512E+03	3.232 E+004	7.272E+03
6	-1.266E+004	-2.849E+03	-1.835E+004	-4.129E+03
7	1.148E+004	2.583E+03	1.990 E+004	4.478E+03
8	-9.351E+003	-2.104E+03	-1.504E+004	-3.384E+03
9	3.621E+004	8.147E+03	3.076E+004	6.921E+03
10	7.047 E+003	1.586E+03	3.265E+004	7.346E+03
11	-4.430E+004	-9.968E+03	-8.116E+004	-1.826E+04
12	9.936E+004	2.236E+04	6.220E+004	1.400E+04

Table 1B: The inner forces of the cross beams in the front/back frame panel structure as shown in FIG. 60A/B.

Beam number	Simply supported at the four top corners (N)	Simply supported at the four top corners (LB)	Simply supported at the four floor corners (N)	Simply supported at the four floor corners (LB)
2	8.670E+004	1.951E+04	5.259E+004	1.183E+04
3	-4.232E+004	-9.522E+03	-7.638E+004	-1.719E+04
4	8.489E+003	1.910E+03	3.039E+004	6.838E+03
5	3.259E+004	7.333E+03	3.138E+004	7.061E+03
6	-1.284E+004	-2.889E+03	-1.424E+004	-3.204E+03
7	1.295E+004	2.914E+03	1.640E+004	3.690E+03
8	-1.052E+004	-2.367E+03	-1.199E+004	-2.698E+03
9	3.024E+004	6.804E+03	2.910E+004	6.548E+03
10	8.267E+003	1.860E+03	3.035E+004	6.829E+03
11	-3.955E+004	-8.899E+03	-7.393E+004	-1.663E+04
12	9.449E+004	2.126E+04	5.967E+004	1.343E+04

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Table 1C: The inner forces of the cross beams in the front/back frame panel structure as shown in FIG. 60C/D

Beam number	Simply supported at the four top corners (N)	Simply supported at the four top corners (LB)	Simply supported at the four floor corners (N)	Simply supported at the four floor corners (LB)
2	7.367E+004	1.658E+04	4.738E+004	1.066E+04
3	-1.321E+004	-2.972E+03	-3.911E+004	-8.800E+03
5	-1.321E+004	-2.972E+03	-3.911E+004	-8.800E+03
6	7.367E+004	1.658E+04	4.738E+004	1.066E+04

Table 1D: The inner forces of the cross beams in the front/back frame panel structure as shown in FIG. 60C/D.

Beam number	Simply supported at the top four corners (N)	Simply supported at the top four corners (LB)	Simply supported at the four floor corners (N)	Simply supported at the four floor corners (LB)
2	7.230E+004	1.627E+04	4.590E+004	1.033E+04
3	-1.054E+004	-2.372E+03	-3.637E+004	-8.183E+03
5	-1.054E+004	-2.372E+03	-3.637E+004	-8.183E+03
6	7.230E+004	1.627E+04	4.590E+004	1.033E+04

Table 2A: the inner forces of the vertical columns as shown in FIG. 61A/B

Beam number	Simply supported at the four ceiling corners (N)	Simply supported at the four ceiling corners (LB)	Simply supported at the four floor corners (N)	Simply supported at the four floor corners (LB)
1	2.920e+003	6.570E+02	2.852e+003	6.417E+02
2	-1.219e+003	-2.743E+02	-1.162e+003	-2.615E+02
3	3.574e+003	8.042E+02	3.504e+003	7.884E+02

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Table 2B: the inner forces of the vertical columns as shown in FIG. 61A/B.

Beam number	Simply supported at the four top corners (N)	Simply supported at the four top corners (LB)	Simply supported at the four floor corners (N)	Simply supported at the four floor corners (LB)
1	3.028e+003	6.813E+02	2.955e+003	6.649E+02
2	-1.212e+003	-2.727E+02	-1.149e+003	-2.585E+02
3	3.615e+003	8.134E+02	3.540e+003	7.965E+02

Table 2C: the inner forces of the vertical column as shown in FIG. 61C/D.

Beam number	Simply supported at the top four corners (N)	Simply supported at the top four corners (LB)	Simply supported at the four floor corners (N)	Simply supported at the four floor corners (LB)
1	5.250e+003	1.181e+003	5.132e+003	1.155e+003

Table 2D: the inner forces of the vertical column as shown in FIG. 61C/D.

Beam number	Simply supported at the four top corners (N)	Simply supported at the four top corners (LB)	Simply supported at the four floor corners (N)	Simply supported at the four floor corners (LB)
1	5.424e+003	1.220e+003	5.297e+003	1.192e+003